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PRIMARY EDUCATION

A Monthly Journal for Primary Teachers

Volume III | January, 1895 | Number 1

PRIMARY EDUCATION
PUBLISHED BY THE
EDUCATIONAL PUBLISHING COMPANY
50 BROMFIELD STREET, BOSTON
NEW YORK OFFICE, 70 FIFTH AVENUE
WESTERN OFFICE, 211 WABASH AVENUE, CHICAGO
Published on the 15th of each Month, September to June, Inclusive,
Subscription: $1.00 per year. Single copies 10 cents
Entered at the Post Office, Boston, Mass., as Second Class Matter
(Copyright, 1892, by Educational Publishing Co., Boston)

EVA D. KELLOGG, EDITOR

THE New Book,— 1895.

"Opening pages, white and fair,
Ready for pictures rich and rare,
Drawn and colored with tender care,
To brighten the lives around.
Sunshine touches for shadowy ways,
Smiles to scatter their golden rays—
Loving words — into cloudy days,
Bringing a cheering sound."

Cannot the little ones be made to understand that each morning opens a new page in this new book?

There is a comfort, even to young hearts, in feeling that the crooked lines and the little blots on yesterday's page may be left behind and that the pleasure of a "fresh start" may be enjoyed every morning. Only let them feel that they are to do all the better to-day because they have learned from yesterday's failures the best ways to avoid them.

Shall not the teacher have this opportunity also? Did the New Year bring to any teachers a heartache because it seemed another reminder of failure and disappointment in the past? You meant to do so much for the children; your hopes were so bright in September when you first met the little flock that you were sure you could lead into pleasant pastures and beside still waters. But nothing "turned out" as you expected; the ways were often thorny and winding, the flock were *too many*, they wouldn't always keep together, you grew more and more tired every day, and you lost heart and hope and inspiration.

Yes, this may be all true. The future may look dark and well-nigh hopeless. But, courage, my dear discouraged teachers;— it isn't nearly as bad as it seems to you. In the first place, you are not to blame because you have forty — fifty — sixty children when thirty or twenty-five little helpless people would be a far more sensible number.

Again, may be you are tired, and have not yet learned to distinguish between nerves and inefficiency. Guard your health as you would the Kohinoor diamond if you owned it. Don't *pore* over shortcomings. Don't shirk them;— look them square in the face, and then seek for oxygen and open air exercise as the first remedy. You will then be clearer-brained for further analyzation of the situation.

Now don't conclude you are the only one who has fallen below expectations since last fall. To look into the heart of any earnest, aspiring teacher is to find the consciousness of hope unfulfilled and desires not yet attained. Do not attempt to compare yourself with that class of teachers who are ever at peace with themselves. To be afflicted with a chronic contentment with one's own work is a dangerous malady. *Self-complacency is always a condition to dread.* Welcome a "divine discontent" as an evidence that you are yet alive and be thankful that you are not dead-asleep in your work and *don't know it.*

But aside from any generalization of probable conditions, do you still feel that you are in danger? Do you confess that school is irksome to you and that you don't know wherein the trouble lies? Will you test yourself with this question:

AM I IN SYMPATHY WITH MY CHILDBEN?

If you are, a failure is impossible. Sympathy is all-powerful and all-conquering. Love and sympathy for these little ones will change the whole current of school life if it is already set in the wrong direction. Let the new year see this vow registered:— that, everything in your life, in and out of school, shall be subordinated to the cultivation and expression of love and sympathy for these children with whom you are passing the greater part of each day. Let the subject taught be the secondary consideration, but let the teaching of that subject be one more opportunity to get closer to the hearts of your children. The most careless, inattentive, and hardened bits of humanity that ever crossed a school-room threshold will melt under the sympathetic eyes of the loving teacher. It is the unfailing law of love.

The school-room will be a different place to you, desponding teacher, when you feel the joy of this subtle tie binding you and your children together.

And now a closing word. Get the lesson your past mistakes hold for you and then relegate them forever into oblivion. Mistakes may and should be made the surest stepping stones to a higher plane. To lose heart or self-respect over the errors of the past is but to add one more cause for after repentance. Take courage. Enter bravely upon the work of the new year. Look forward and not back.

"Be still, my soul, with your restless longings,
To-day we weave anew.
Be quiet, my heart, with your ceaseless strivings,
Take the work thou hast to do.
Yesterday's failure faded from sight
With the tinge of a glowing sunset light;
Why grievest thou?"

Departmental Teaching.

By Dr. W. A. Mowry.

AMONG the multitude of new movements now being tried everywhere is the plan of "Departmental Teaching." It is surprising how many new things, new studies, new methods, "shortening and enriching," devices, helps, aids,—all sorts of new fangled notions are recommended by committees of ten, "captains of hundreds," and editor's galore.

All this is helpful and hopeful. Good will certainly grow out of it. The truth shall triumph and

"The truth shall make you *free*."

But the great danger is that too many experiments will be tried, and when they have failed the "last state is worse than the first." The true position is that, before putting into practice in the schools *any* new scheme, the subject should be thoroughly examined and all the conditions considered, so that it shall cease to be an experiment and will surely succeed.

It were well if all would constantly bear in mind that adult teaching should be scientific, but that elementary teaching should generally be more or less unscientific. It should never be unphilosophical, but always in accordance with all known laws of the mind. *Juvenes* and adults reason, analyze, and learn, naturally and readily, laws and relations. Children on the other hand, pick up knowledge here and there, reaching out in every direction from that which has already become known to that which is as yet unknown. It is more difficult for them to classify and analyze. That period has not yet come. Why force it. *Science* is classified knowledge, considered in its relations, the one to the other, with special regard to cause and effect.

All knowledge is one. Col. Parker is right in his doctrine of "Concentration," when he says that all nature, all the sciences, all sources of knowledge, all education, all means, all ends, all material, are "focused" upon the recipient mind of the child.

All elementary knowledge should be conveyed to the child, or originated in his mind, by philosophical methods, but in the main, the child gains knowledge piecemeal, from the step-by-step process, and waits to classify it at some future time. It comes not to him as *science*. A great truth is bound up in the saying that "we should teach — not arithmetic, or geography, or reading, but — we should teach *the child*. The true correlation of studies in elementary education means vastly more than in secondary or higher education. It is not expected that we can dispense with the reading lesson, the spelling lesson, the drawing hour or the science talk — each will have its place, but truly, the drawing must not be confined to *its* period, or the number work to the bare space of its allotted hour. So of all the rest. They are correlated, and the one dove-tails into and helps the other.

It may be, doubtless is, that in the eighth and ninth grades of large schools, the arithmetic in several rooms, may better be taught by one teacher and the geography or history by another, but in the lower grades, especially in the primary schools, the moral power of the one teacher and guide and friend is more mighty and of more force and strength and value, than all the "Departmental Instruction" in Christendom. Every great teacher has been remembered more by his personality than by the particular way in which he taught geography, mathematics, or Latin and Greek. It was Dr. Arnold's character that made his administration at Rugby famous. It is the personality, the kind word, the daily care and love for her children that will ever prove the most important and the most valuable work of the successful primary school teacher. Three teachers specially moulded my life in my boyhood — one when I was six, one when I was thirteen, and the third when I was sixteen or over — yet I can hardly remember any details of how or what they taught. I do, however, most distinctly remember their personal influence over me. The first two were women, the third a man. The particular thing that I recall about him is that he made a kite and used to fly it with the boys, and one noontime when the strong wind broke the string and left the kite half a mile or more from the schoolhouse he sent me after it, and did not mark me late, because I had not been late that term and I was then on school duties.

It is without doubt true that by departmental teaching the several studies will be taught more scientifically than if the entire curriculum is taught by the one teacher of the room. The question then recurs whether the gain is commensurate with the loss of personal power and general development. Nor should it be forgotten that certain evils will inevitably ensue. One of these is that there can be in the nature of the case no proper adjustment of the relative amount of time and work given to each individual study. The teacher of geography will be likely to require more time for that study than the pupil can properly give to it, and the same with regard to the teacher of number work, or language work, or drawing or any other specialty. With one teacher for a room, she knows what is required in each study and can adjust the lessons to proper length.

The great difficulty in the graded system of city schools is *machine work*, dead routine, cog-wheels and spindles run at a fixed and uniform speed. A railroad locomotive and a train of cars may be wrecked and the result is only loss of so many dollars worth of property. If, however, a single life is put out, how can the loss be estimated. The soul is of more value than a machine. The school is valuable only for its influence upon individual minds, not for its skilful presentation of facts to large classes. Not classes, but individuals should be the motto of every superior teacher.

(From Cook County Normal School Envelope.)

September, 1894.

Introductory Questions in Science.

Professessional Training Class. *Wilbur S. Jackman.*

1. How much of your life, and what part of it, if any, has been passed in the country? When did you live there?
2. Speak briefly of the natural features in your neighborhood that interested you, *e.g*, hills, valleys, streams, lakes, etc.
3. What plants did you become familiar with while in the country?
4. What habits of plants are you familiar with?
5. Write a list of trees that you know by sight.
6. Write a list of the smaller plants that you know by sight.
7. What wild animals inhabit your neighborhood?
8. What habits of these wild animals are you familiar with?
9. What wild animals can you name at sight?
10. How many different birds' nests have you seen constructed?
11. How many different species of eggs do you know?
12. State briefly what habits of insects *you have observed.*
13. What do you know by observation about the animal and plant-life that may be found about ponds, streams and in marshes?
14. Have you ever made collections in any line in natural history?
15. How should plants be prepared for an herbarium?
16. Can you prepare the skeleton of a frog for study? How?
17. In what section of the country have you lived?
18. While in the country, were the influences about you for or against your study of nature?
19. How much of your life, and what part of it, if any, has been passed in town or city?
20. What do you know about the life-history of the vegetables that you have used for food?
21. How many vegetables (and what are they) can you recognize in market?
22. Name the part of the plant used for food in each of the following: Cabbage, Beets, Parsnips, Turnips,

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Cauliflower, Spinach, Potato, Lettuce, Egg-plant, Pepper, Melon, Water-cress, Corn, Tomatoes, Squash, Apple, Pear, Plum, Grape, Cucumber, Watermelon, Onion, Peach, Radish.

23. What game can you name at sight in market?
24. When are the following kinds to be found in market: Duck, Grouse, Quail, Turkey, Deer, Bear, Squirrel, Rabbit, Snipe, Geese?
25. When are the following to be found in market: Lobsters, Oysters, Clams, Turtles, Fish?
26. Where are the animals mentioned in 27 and 28 found?
27. What journeys have you taken?
28. What natural features have you seen in your travels?
29. What wild animals have you seen in their native haunts in your travels?
30. What trees or other plants interested you in your travels?
31. In the region where you have lived, what is the prevailing wind in summer? In winter? For the year?
32. What is the average yearly rainfall where you have lived?
33. What wind brings rain in your home neighborhood? Snow?
34. What wind accompanies a clear sky in your home neighborhood? A cloudy sky?
35. What kind of rocks are in the region where you nave lived?
36. Are the rocks stratified? Are the strata horizontal or inclined? At what angle?
37. In what direction do the rocks dip?
38. Name the minerals that you can recognize at sight.
39. What tests are you able to apply in the determination of minerals? Can you find specific gravity of minerals?
40. Name the different kinds of rocks that you can recognize at sight.
41. During what months does the noon shadow shorten?
42. During what months does the noon shadow lengthen?
43. About what time does the full moon rise?
44. Why do the horns of the new moon point eastward?
45. Through which grades of schoolwork have you passed? Elementary (graded or ungraded?) High School, Normal School, Academy, College, or University?
46. What branches of natural science did you study in school?
47. What branches were studied from text-book, or from lectures only?
48. In what branches did you have the laboratory work?
49. In what branches of natural science have you done the most reading?
50. Have you done any sketching, drawing, painting, or modeling?
51. What wood-wor...ng tools can you handle with safety to yourself?
52. In the following list name the pieces of apparatus, the *use* and *care* of which you understand: Chemical Thermometer, Barometer, Hygrometer, Rain-gauge, Bunsen Burner, Alcohol Lamp, Battersea dish, Evaporating Dish, Florence Flask, Test tube, Graduate, Beaker, Filter-paper, Scales, Compound Microscope, Mortar, Magnet, Protractor, Blow-pipe, Weather Map, Cyanide Bottle, Prism, Sonometer, Lever, Pendulum, Siphon, Pump, Battery.
53. What phenomena in nature interests you most?
54. What branch of natural science interests you most in school work?
55. What is the chief thing in your experience upon which you can base further study of elementary science?
56. What obstacles seem most formidable to you in your study of elementary science?
57. On the whole, have your school and home influences directed you towards or away from this study?

What Becomes of the Bright Children?

By An Observer.

"This is a very dull class, all my bright ones were promoted in June," said a teacher to a visitor. The visitor passed on hoping to find the stars in a higher sphere, and was there informed, "This class is not so bright as my last one which I sent up to Miss —— in June." Where the bright ones might have been found is a very unsettled question, as the quest was not pursued.

"These are the 'left overs' from several classes, and they *never will* know anything," said another teacher petulantly, and in a tone very far from a stage aside. The poor children must have heard, but it was as though they heard it not; for there was no sensitiveness or chagrin manifested when the hopelessness of their condition was publicly proclaimed. This sort of a remark, in the hearing of the children, is unfortunately too common all over the country, and leads one to ask what its course may be.

No one who thinks can be persuaded that nature ever arranges awkward squads of from twenty-five to sixty children, or that the prevalent characteristic, mentally, of regiments of children, is dullness.

Can the purpose be to exhibit the children "before taking" and "after taking" (when they pass on,) and thus show the efficacy of the teacher's treatment? It can hardly be this;—and it must be thoughtlessness. Teachers must forget the proverb about "little pitchers," and forget the sensitiveness of childhood before they utter words that will so rankle in the hearts of children, and so discourage effort.

Anybody can so minimize, criticise, discourage and paralyze children that they will not dare use half their strength, and that they will do what they do awkwardly and painfully, because consciously. Those who can so inspire and encourage children that they forget themselves in the joy of real work and attainment are the great teachers.

Does any person (except the few who are angered by criticism, and by that incited to unusual exertion,) of whom not much is expected, and who is regularly informed of his inability to ever do anything possibly well, surprise the world with great brilliancy?

Is not apparent lack of interest on the part of a whole class due to some defect in the method of approach?

What has become of that spontaneity and superabundant vitality that characterized the child before he had been too long at school?

In connection with dullness in children, what is the application of the fable of the wind and the sun?

School Decoration.

A. M. H

In passing his old school after fifteen years, a successful business man said, "The bare, white walls of that room make me shiver even now. I have as much desire to see the inside of it as to look at the interior of a jail."

What a rebuke!

At first, I said, "O, that was fifteen years ago." But, the thought came, that, of nineteen rooms in my building at the present time, *three* have some attempt at decoration.

Why is this so? I asked the teachers. One said she did such things when she was young and enthusiastic, but it was too much trouble now. Another thought it was all right for primary teachers, but grammar teachers have to mark papers out of school hours. If another could get the janitor to dust, she would not ask for picture hanging, or other extra favors.

All are agreed that decoration is desirable, but it stops there.

Sanitary Conditions of School-Rooms.

Bad manners and English, if developed in the school-room, may be corrected and controlled at home, or a change of teacher or school be accomplished. But the effects of bad light or ventilation, of improper heating or furnishing, requires scientific, and therefore expensive treatment to overcome, if it can be done at all. It is barbaric, the indifference in too many homes to the school-room and its surroundings and care. There are men and women going through life suffering from physical limitations due to the improper sanitary conditions of the rooms in which their school life began: they are the victims of ignorant or indifferent parents. The round shoulders and crooked backs that detract from the appearance of so many men and women are the results of sitting in chairs, hours at a time, with the feet hanging unsupported. Sight is imperfect because no one noticed that the light did not strike the page or the desk properly, or the map or blackboard was too far from eyes of limited range of sight. Lungs lack their full power because no one thought of the importance of lung room, and pure air to fill it. We have made great strides in education, but there are miles of road to travel before there shall be that close and intelligent relation between the home and the school that there should be; before there shall be that sympathetic interchange between parents and teachers that is necessary to the fullest comprehension of the child's needs and limitations. It is a disgrace to parents that their appearance in the school should be the cause of embarrassment to either teacher or pupil, and doubly disgraceful if their appearance is a source of anxiety only because it means a complaint. If there is cause for censure only, the fault doubtless is due as much to the home regime as to the school; the failure or the success of the school life depends on the combination, of the two. Neither is alone responsible for the health, or the progress, mental, moral or spiritual, of the child. The child is the record of the two forces moulding his life, determining his future. This being true, success depends on their intellegent combination, not on the critical separation of the two or in indifference about either. — *The Outlook.*

Pay to Substitutes.

In Boston, the absent teacher pays the substitute one four-hundredth of her annual salary. In Cleveland, substitutes are paid $2 per day, and this amount is deducted from the regular teachers pay, she receiving the balance only when absent because of sickness, or by permission of the superintendent. Regular teachers in St. Louis are allowed half-pay for absence on account of sickness for twenty-five days or less. Substitutes receive a *per diem* of $2 for teaching. In Chicago, teachers absent on account of sickness receive their regular salary for two weeks, less $1.50 a day for substitute's pay. Denver allows its teachers to be absent, for sickness only, five days in any one year without loss of pay. A teacher can be absent for fifteen days longer, during which she is allowed the difference between the regular salary and the substitute's $3 *per diem*. At the end of a month's absence, the teacher's name is dropped from the roll. All pay is forfeited in case of absences on account of the sickness or death of a relative or friend. In St. Paul, substitutes receive the minimum pay for the grade of the teacher whose place they are taking, and this is deducted from the regular teacher's salary. In Brooklyn, a teacher may be absent, if she is sick, for fifteen school days each year, without losing salary. Otherwise, she loses the substitute's pay, varying from $1.00 to $2.50, according to grade. Milwaukee allows an absence of three days to attend funerals of members of the family of the teacher, without loss of pay. In case of sickness, an absence of forty half days is allowed during which the substitute's pay, $1.50 *per diem* is deducted. All pay it forfeited in case of further absence. In Cincinnati, the regular teacher pays the lowest *per diem* of the position filled by the substitute, and retains the remainder of the salary, upon the physician's certificate continued for forty days. In Indianapolis, absent teachers pay their substitutes $2.50 per day. In Baltimore, absent teachers furnish a substitute, whom they pay $1.00 per day, if the absence is caused by sickness. If the regular teacher is absent for any other cause than sickness, she pays her full *per diem* salary to the substitute for each day's service. In Washington, substitutes receive one-half the regular teacher's pay. In San Francisco, the department of education pays the substitutes, the compensation being about the same as that of the regular teacher.— *Annual Report, Philadelphia Schools.*

For the New Year.

Year after year beheld the silent toil
That spread his lustrous coil:
Still as the spiral grew
He left the past year's dwelling for the new,
Stole with soft steps its shining archway through,
Built up its idle door,
Stretched in his last-found home, and knew the old no more.
— *The Chambered Nautilus.*

Needs and Helps. II.

Suggestions For Seat Work.

By E. J. PHELPS, New Haven, Conn.

CHILDREN learn to do by doing. A very simple theory, yet, once admitted to our school-rooms, how exacting it becomes. Would we shape results? Then we must be sure that we shape the *doing*.

In class work it is comparativaly easy to do this. Here we have time to comparatively direct and supervise, and were it not for a few persistent questions which will not be set aside, we might close each day in the happy consciousness of having lived up to our theory, —and that a good one.

But class-time does not include the whole day. May we feel quite sure that the ground gained by our painstaking when working with the children in class has not been silently crumbling away during other portions of the day? I am not now thinking so much of the new words taught or of the particular number studied, as of the working habits of the children which are being so surely, though gradually, strengthened by the activities of the successive days of school life. The children have been *doing* when not in class. Does it matter what? Does it matter how? Has the teaching out of class been in harmony with the teaching in class?

Questions easily answered to be sure, but whose answers lead directly to the perplexing question of seat work of some kind. What shall it be? How shall it be managed? What may we hope to gain from it? Shall we attempt to make it more than mere business work?

Listen for a moment to what the higher grade teachers are saying.

"The children do not work steadily."

"The children understand the process, but are so *inaccurate* in their work."

"They do not intend to be disobedient, but through lack of thought often fail to carry out the *full directions* given."

"Many do not put their *best efforts* into their every-day work."

"The papers passed to me are, in many cases, *untidy*, both in appearance of paper and in arrangement of work."

Reduce these words to their simplest terms and we have an earnest plea for the formation of habits of industry, accuracy, self-reliance, neatness, and thoughtfulness.

Who shall respond to this call for help? Is there not some relation between the needs of the higher grades and the work of the lower, — even of the very lowest?

Habits of industry, neatness, and accuracy do not depend wholly upon the working out of problems and the writing of language papers. Why may not the seat-employments in our primary rooms be so shaped as to furnish a series of opportunities for the cultivation of these and other desirable traits of character? Not that we may expect to bring forth miracles from the seat-work; but ought we not to aim to make it, as well as class-work, aid in giving the children both movement and right direction? And, indeed, what more than this can the entire school course accomplish?

Do the means, — the handling of pegs, blocks, and colored cards, — seem insignificant when placed face to face with our hoped-for results? Possibly; but is not this same insignificance true of nearly all means for characte training outside of school-life?

Are we agreed, teachers, that there is as great need for primary work, — first steps — in the formation of working habits as in reading or number? And that instead of mere busy work our seat-employments shall aim to meet this need? Then we are ready to spend a few minutes in thinking of the "what" and the "how."

We will bear in mind that we are planning primary work, first steps, and we will try to realize what an accomplishment it must be for our little people, even to busy themselves for ten, fifteen or twenty minutes, in accordance with given directions. Theirs has been such a life of freedom, the shaping towards definite ends must be done with a gentle hand.

Because the home life has made them more at ease in handling things than in controlling pencil and line, and because such handling furnishes so many opportunities for character-training, our beginners shall still work with materials. What shall we hope to gain? Ability to work out directions, for one thing; orderly habits for another: neatness in use of material as to soiling, scattering, destroying; a skilful use of the fingers, that the work may be well done and not destroyed at the last by a hasty or clumsy touch; power to distinguish differences of color, shape, size, number; truthfulness in expressing thought, in carrying out directions, in copying simple designs; the formation of good ideals of work; and, by and by, some reproduction of work done in the class.

How Shall all This be Brought About?

Well, there is no one royal road that I know of; but there are many paths which seem to lead in the right direction.

In the first place, the children shall be expected to do only what, with effort, is within their power; yet their work shall be given the dignity of being slightly in advance of what they have done.

They shall *know*, — not be told — that their teacher is interested in what they are doing, and shall never work with the feeling that she is but a task master standing ready to assign more work the moment this is completed. Neither shall there be the feeling that the work is unimportant.

Results shall be examined and effort shall be recognized.

Were your sympathies never drawn to the child who has patiently wrought, only to have his work hurriedly gathered into a pile that it may be ready for collection? Did you notice the wistful glance as the reluctant hand slowly destroyed the design which had required so much care and patience in the construction?

Criticism of results shall be upon the base of truth as well as of appearance. The peg house is unsatisfactory, — not alone because the lines are crooked, but because the roof of a real house could not rest upon such slanting sidewalks; and windows unjointed, as are these, would admit cold and rain.

"I do not like your ladder," said a teacher to a careless little fellow, who had hastily laid his pegs without attempting to fit his rounds tightly to the sides of the ladder. "The rounds would fall out as soon as touched by the feet. Can't you make a ladder that could be used in safety?" The child had not thought of that. He at once began to work with a will. When next the teacher passed a bright face was turned up as the question came, "Would you dare stand on that ladder, Miss A? Every one of 'em touches the sides." Did not that mean ideal application and care? Was there no character training going on during the formation of that ladder?

The children shall frequently have before them models of perfect work, that their ideals shall be formed from these rather than from their own imperfect results. They shall generally see these after and not before their own work is done, lest there be the temptation to make a copy of what is before them rather than to carry out the directions given. And, too, the model means more when personal effort has revealed the difficulties to be overcome. Of course copying will at times be the work assigned.

All directions shall be simple, definite and thoroughly understood before any attempt is made to work them out in materials.

There will of course be periods when the children are allowed to use the given material in accordance with their own choice, *best efforts* being the only stipulation.

And the *time!* It would be unfair for me to say what I have said without courageously facing this question of time. Where is the time for all this work? For the preparation of material? For its distribution and collection; for examination and criticism of results?

Would that I could tell in a single sentence! I can only suggest ways for saving time.

Do not attempt to prepare all material at any one time. Many littles make the much.

Do not have too many kinds on hand at any one portion of the term. A few put to good use will be better. New kinds may be added one by one, as children show a readiness for them.

There are many ways for using a single kind of material. Monotony comes from monotony in *use* rather than from sameness of material. A box of cut forms (squares, triangles, etc.) differing in size and color admit of almost inexhaustible use. There may be assortment with reference to color, with reference to size, with reference to shape. There are, too, the groupings with reference to number alone, or to both number and color, or number and shape. Then there are orderly arrangements; copying of simple designs; arrangement of cards to correspond with color-names upon boards, or shape-names when the children have reached this work in their classes; a simple design outlined upon board, color words used in place of the actual color, the children copying with color cards.

Often one of the careful children can assist in preparing the material for distribution, also he may assist in distributing and collecting. And is not this, — the privilege of helping, — a natural compensation for having acquired power to do things well? May it not also be an incentive?

And, lastly, we will remember that the salvation of the children is not dependent upon any one kind of work. If perforated cards require more time than the teacher can afford to give, then simpler material, equally interesting to the children and equally good in training facilities, shall be substituted.

And a word or two about the examination of seat work. One needs to be something of an expert here. How much good time and strength are too often spent in pointing out the many *little* faults which appear in a child's work. Few of these can be remembered by the child, and what is gained beyond the impression that his results are far below what they should have been.

While it is not desirable to give him the impression that noted faults are the only faults, will it not be a good plan in place of creating the oppressive sense of many errors to indicate one or two paths which will lead to better results? And will not such a course be quite a help to teacher as well as child?

Then, too, careless work can be recognized at a glance and needs no further criticism.

Common errors may be noted once for all, without passing from desk to desk to repeat the word of criticism or advice.

I know too well how many things have been left unsaid in this talk on seat-work. May I hope that enough has been said to emphasize the need for some definitely planned "first steps" in *working habits*, and the possibilities of seat-employments to meet this need?

A Song of Hope.

Be still, my soul, with your restless longings,
To-day we weave anew.
Be quiet, my heart, with your ceaseless strivings,
Take the work thou hast to do.
Yesterday's failure faded from sight
With the tinge of a glowing sunset light;
Why grievest thou? — *C. S. B.*

Helps in First Grade Phonics.

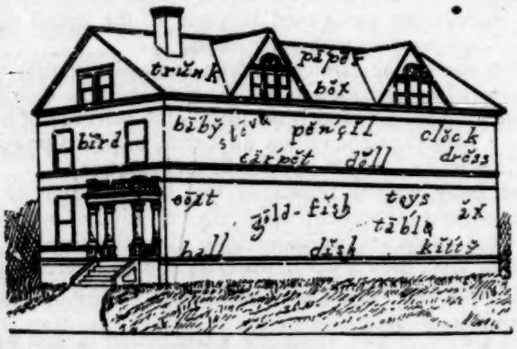
By A. L. Remmel, Alameda, Calif.

THESE little devices for drill in phonics have proved helpful in the first year's work.

On the board had been drawn running figures as shown below. For a little language work the children tried

to "guess" why these men were going so fast. It was decided that they were bad boys and the policeman was after them. By this time the children knew they were to act the part of policemen and were ready for attentive work. Each child who pronounced the sounds quickly and correctly was considered a capable officer and received a star made of silver paper to wear on his coat the rest of the day.

The game of "house on fire" is great fun for the little folks. Draw on the blackboard a house filled with new



House on Fire.

words made up of known sounds, and with bright red crayon draw flames bursting from the roof and windows. Let each child "play" fireman, who removes — by pronouncing rapidly — as the teacher points, all the articles from the burning building. He who does good, rapid work receives a fireman's cap made of pretty colored bristol-board. On these caps are written words that pertain to a burning building. For busy work the children trace the caps and copy the words.

Cut out of colored cardboard a large shoe with a hole through it as shown in illustration. Then on a circular piece of the same material but of a contrasting color draw running

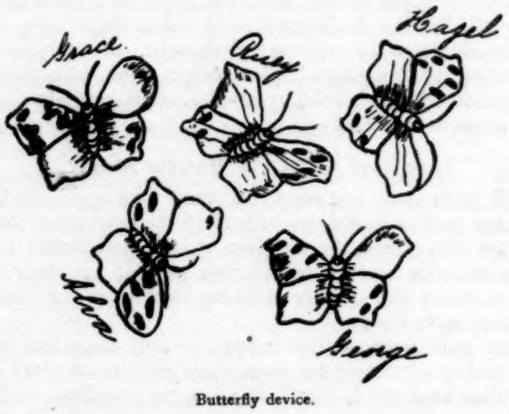
Fireman's cap.

figures representing the various phonetic sounds. Fasten this to the opening in the shoe in such a way that it can be easily turned. Have the children repeat the nursery rhyme,

"There was an old woman,
Who lived in a shoe."

Tell them this is the old shoe, and the children are running all around in there making many different sounds. The teacher turns the disc and as the old woman's children appear, the class gives the sound each one represents.

This butterfly device has proved of great value as an incentive for hard, earnest work in *spelling*. The teacher drew on the blackboard with bright colored crayon a butterfly for each child in the class. Every day that he received a perfect mark a new spot was put on his butterfly's wing, and he who received five spots — one for every day of the week — took part in some pleasant surprise on Friday.



Butterfly device.

Each section of the wing can be used for a week, thus making one butterfly last for a four weeks' record.

A little child whose vocabulary did not include the phrase, "day before yesterday," made the time perfectly clear by saying, "yesterday's yesterday."

Another hit the mark in reading "The sable hearse moves slowly on," when she blunderingly rendered it, "The stable horse moves slowly on."

Gaining Wings.

(A valuable lesson for teachers. — ED.)

A twig where clung two soft cocoons
I broke from a wayside spray,
And carried home to a quiet desk
Where, long forgot, it lay.

One morn I chanced to lift the lid,
And lo! as light as air,
A moth flew up on downy wings
And settled above my chair!

A dainty, beautiful thing it was,
Orange and silvery gray,
And I marvelled how from the leafy bough
Such fairy stole away.

Had the other flown? I turned to see,
And found it striving still
To free itself from the swathing floss
And rove the air at will.

"Poor little prisoned waif," I said,
"You shall not struggle more;"
And tenderly I cut the threads,
And watched to see it soar.

Alas! a feeble chrysalis,
It dropped from its silken bed;
My help had been the direst harm—
The pretty moth was dead!

I should have left it there to gain
The strength that struggle brings;
'Tis stress and strain, with moth or man,
That free the folded wings!

— *Edna Dean Proctor.*

More Love and Sympathy.

By A. M. C.

DO we consider our schools as the home of our little ones? We may think we do, in a general way, but if so, do we treat cases of misdemeanor, as nearly as surroundings will permit, in the way a wise, careful, judicious mother would do? Do we not, as teachers, feel it our duty to notice too much of the mischievous in our pupils?

Do we fully put ourselves in *their places*, and consider this question? — "Was it not a natural result from some cause — a cause which *we* might have obviated?" Have we given the children enough to do, and was it of the right kind for them? In similar circumstances, think what would be true in our own case under like conditions; how much more true would it be in those of children.

In answer to the question, "Would you allow the cases of merriment or thoughtlessness to pass?" *No*, we need not do this; but I fear we notice too many of them, and make them appear too great.

I once visited a school of high standing in one of our large cities. The little class were thoroughly enjoying their number exercise, using various objects to enliven the work. One little fellow tossed an article down to a neighbor standing near at the table, around which the class was standing. The teacher grasped the child, rather too roughly it seemed to me, and hurried him, talking all the way, to the dressing-room, at the opposite end of the room. The child, of course, was heart-broken. He probably will throw no more of his materials for a while, at least.

But could the teacher not have accomplished her end in some other way, one which would seem to put less antagonism between the two? I think she could. I felt that there was a *lack of sympathy* between that teacher and her little pupil. We need to let our children *feel* that we *love* them.

Contrast the above treatment with the following, seen in a little retired, wholly unknown school, save in its own town. The child, an indolent little boy, was not doing work which had been assigned him. Miss G asked him to sit beside her at her desk. Some idea of punishment as connected with it, associated itself in his mind with her request, and he obstinately refused. Miss G went quietly to his seat and pleasantly asked him to come to her desk to be her company. Still the child was obstinate. The teacher firmly but kindly placed her hand on his shoulder, and said: "Is this *my* little Johnnie? He has gone away and sent this naughty little boy in his place," and helped him to the platform, where the fellow, who but a few moments before was in a rage, was soon smiling and busy at work.

Do we not need to have greater love and sympathy for the children who for so much of their time are entrusted to our care? Ought we not to study them more carefully than we do? I think it is only by so doing that the best results are obtained — results which will make us glad, as Mr. Whittier puts it, in later years, to say, "These were mine."

Vertical Writing in Chicago Schools.

By BLANCHE MCGAFFEY.

AS many readers of PRIMARY EDUCATION may know, the Chicago Board of Education, last year, prescribed vertical writing in the eight grades; but in such a short time it is impossible to come to a definite conclusion as to the advisability of the change.

After all arguments have been thoroughly discussed, *pro* and *con*, we can only judge of an experiment as we see it put to the practical test. To begin with, there seems to be a generally expressed satisfaction among teachers with this new idea. They are glad to get away from the everlasting talk about the slant of the letters, the shading, etc. In vertical writing they only insist on the paper being directly in front of the child; an erect posture of the body, with arms half-way to the elbow on the desk, and the result in nearly every instance *is* vertical writing. This position certainly seems the natural one for writing — if we notice bookkeepers and office men in general, we see that they keep their work well in front of them and with both arms on their desks. The only drawback to this with the children is, that the desks used in our schools are not large enough to admit of such a position comfortably.

The converts to vertical writing make a point of the fact that in the old position one shoulder was higher than the other, which was most injurious to the proper development of the child; and also that the eyes were unequally focused, which last condition they considered very detrimental to the eyesight.

As to beginning with the babies, one teacher says: "Little ones who have never been taught any other way, get along just as well with the vertical writing as with slanting writing. The position is easier for them, more natural, and sitting at their desks with their work squarely in front of them, it is impossible for them to screw around and go through those contortions with which so many of us are familiar as being inevitably associated with the writing period."

In talking with a principal who has had over a year's experience in vertical writing, he said: "It is the most rational, sensible innovation that has been introduced in our schools for a long time. It may not be possible to make every pupil a beautiful penman, but with vertical writing there is no excuse for any child leaving my school a poor writer."

I was able to collect a hundred or more specimens of vertical writing from the different grades, and there seemed to be several strikingly characteristic points in favor of this method. The writing is uniform; the letters are free, rarely any crowding or running together; when a sheet of foolscap is covered the last line is as well written as the first, showing that the operation is not tiring; it is perfectly legible, and last but not least, it has not that unmistakable school-room *stamp* which we find in the old round Spencerian writing.

The form of the letters is very simple, without unneces-

sary flourishes, but a boy or girl leaving the eighth grade could be well satisfied to keep such a handwriting through life without that complete change which almost invariably takes place when a boy or girl enters a business life, or when they are required to do much writing.

To go through our city schools one would suppose that slanting writing was a thing of the past so deeply has the vertical writing taken root, but in my wanderings I peeped into our Cook County Normal school, there to encounter Colonel Parker's faithful aids, and the question was put: "Are you doing anything with vertical writing?" The answer came: "We have *heard* of it, but we have not tried it."

A Winter Play.

By Mrs. M. J. Snyder, Shelbyville, Ill.

The wind and the clouds came together one day,
Said one to the other, "What shall we play?"
Said the wind, "I think 'twould be nice
To cover the earth with a coat of ice.
We'll play a trick on the great big sun;
He'll never catch us till the mischief's done.
I'll hie me to the north, and there I'll blow,
Th n you are to send the rain, you know."
The wind went whistling thro' the air
The clouds began to scatter everywhere,
They fluffed themselves up until black in the face,
And then sent the rain in a dashing race,
The wind caught the drops and covered the trees,
The houses, the barns, and the earth with great ease.
He went hither and thither just where he pleased,
Everything that came in his way he seized.
By and by Night came hovering down,
She saw a silvery ice-covered town,
I think she must have felt very sad,
She could only say, "It's just too bad!"
But morning came with her rosy light
And found things in a very bad plight.
What to do she really did not know.
Finally she concluded to the sun to go.
"Ha! ha!" he said with a merry laugh,
And he laughed a loud and hearty laugh,
"I'll send my sunbeams, every one,
And melt the icicles one by one."
At first he drove the shadows away,
Then the beautiful purple mist that lay
Covering everything in his way,
Then he shone with such a splendid light
The icicles tried with all their might
To stick together so close and tight
But the sun came down so warm and bright
They found it useless to keep up the fight.
They began to shed tears — copious tears
For this was the end of their fun, my dears.

Lesson in Conceptional Drawing.

By Laura A. Moore, La Porte, Ind.

[*Note.* To be effective all drawing must have a purpose." In reality drawing is *speech*. By it one expresses ideas visibly and communicates thought. To the child the most important drawing is conceptional drawing, that is *language* drawing. Lines should express *ideas*. To the child a curved line may express a hill or mountain. A straight line may represent a tree, hitching post, etc.

The beginnings of conceptional drawing are necessarily very simple. The drawings *grow* as the child gains power in observation, thought, *expression*. At first four simple lines represents a boat to the child, but gradually he wishes to add sails, a rudder, etc., all representations of his ideas.

In conceptional drawing it is extremely important that the child shall express *his own* ideas, and not merely reproduce a drawing made by the teacher. The teacher must be full of helpful suggestion — thoughtful questions, and so skilfully draw out the *child's* conceptions.]

Morning thought for day. Thoroughness. The work of weeks had been related to the study of *trees*, and as the teacher wished to have the work — in all phases — a unit, the following story — which is one of Dr. E. E. Hale's, and is beautifully told in Emilie Poulsson's "In the Child's World," — was told the children.

"*The Four Apple Trees.*" Outline.— A farmer wished to have a beautiful orchard. Bought many trees and was ready to plant them when was called away. Left man to plant trees. On farmer's return only four apple trees were planted.

Farmer indignant. Asked man why so little done. Man replied —"I dug deep, large holes to give roots room. I went to woods to bring rich earth, and carried plenty of water to moisten roots. All this took time." Farmer discharged man. He said he could plant trees much more quickly and with half the time and trouble and just as well. Farmer finished planting, hastily. Dug shallow holes, brought no rich earth, etc. In a few years the four apple trees which were so well planted were all that remained of his orchard. These trees grew and bore beautiful fruit, while the others died or were fruitless.

(The teacher told the story simply — leaving the "Moral" to do its own work. At the end of the story, "Brother" a little six year old who had listened most intently, cried out, "That's just the way in school, too, isn't it?")

In the afternoon the teacher had the children reproduce the story orally. (They had been in the first grade only a few weeks.) Each child was encouraged to add his mite until all had helped tell the story. Then the teacher said, "Shall we make a picture of this story?" Enthusiastic assent. "Let us make it in the sand table first," said the teacher. All gathered around a large sand table — though it was rather close quarters for nearly thirty children, but that gave the children an opportunity to be thoughtful for each other's comfort, and show consideration for one another.

What shall we make first? "The man's house."

What kind of a house was it? "Wood."

John and Blanche may build the house. (They build a square house of inch cubes.)

"O they haven't made any chimney," said Agnes. One block is put on top of house for chimney.

"Nor any steps," said Maud. (Steps are made of oblong boards, or chips.) "Now let's make the walk," added another.

Where did the man live? "In the country."

Then what do you think the farmer had? "Horses." "Cows," "Chickens." "Sheep."

"Then what shall we build?" "A barn." The barn is built. Then Oliver wishes to make a pump. (The pump is made by placing half-inch cylinders on a stick.) Laura and Grace make flower beds. Then Donald says, "Let's make the farmer standing by the pile of trees and the man coming to plant them."

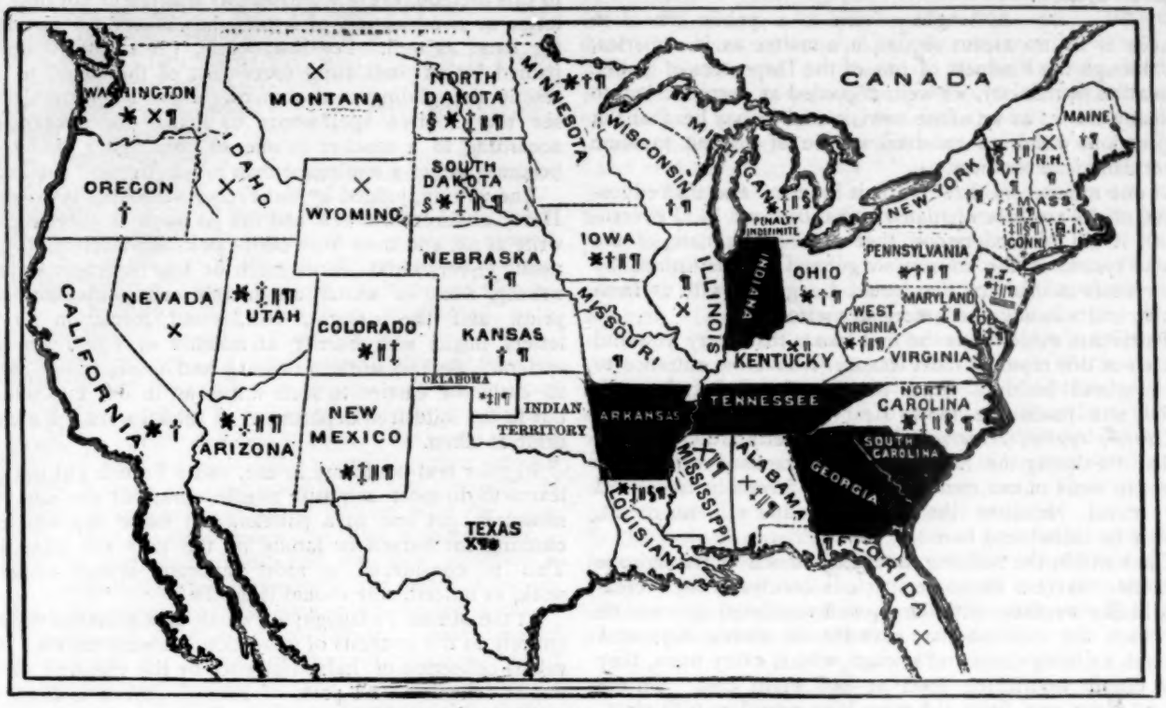
A paper doll represents the farmer, and the trees, which were made the preceding afternoon, (during the lesson on cutting and pasting,) out of tissue paper — fringed and and pasted on four inch sticks — were brought and laid in a pile. Then the farmer goes away.

Fred, you may play you are the man who planted the four apple trees; how shall he plant them? "Make the holes deep." Why? "So the roots can grow." "He must get good dirt," said Mabel. "And lots of water," added Marie. Trees are carefully planted. Then Frank "plays" he is the farmer, and plants the poorest trees. The holes in the sand are not deep enough, consequently the trees do not stand erect, and look sickly.

When the "picture" is finished the children are perfectly delighted. The teacher asks, "Would you like to make this picture on paper to take home to show mamma?" Much enthusiasm and deepest interest. Each child was given a five inch square of manilla paper and the drawing began. The teacher did not draw but moved about quietly making suggestions here and there — encouraging the timid, sending those who had few ideas to the sand table for suggestions, and insisting that each child draw his picture of the house or barn or orchard, *just as he thought it looked*. When the pictures were finished no two were alike. One child had drawn smoke coming out of the chimney; another had a woodpile near the house, and a third had a little boy and girl watching the man plant the trees. Bertha had a wheat field, and Louis a lake. Some of the pictures — nearly all in fact — were extremely crude, only a few lines being drawn, but *all* were silent *language* and expressed the *children's ideas*.

TEMPERANCE EDUCATION MAP OF THE UNITED STATES AND TERRITORIES.

States in White have a Temperance Education Law. Those in Black have *NONE*.



EXPLANATION OF MARKS.

× The cross signifies that Scientific Temperance is a mandatory study in public schools.

† The dagger signifies that the study is not only mandatory, but is required of all pupils in all schools.

‡ The double dagger signifies that the study is required of all pupils in all schools and is to be pursued with text-books in the hands of pupils able to read.

‖ The parallel indicates that the study is to be taught in the same manner and as thoroughly as other required branches.

§ The section mark indicates that text-books on this topic used in primary and intermediate schools must give one-fourth their space to temperance matter, and those used in high schools not less than 20 pages.

¶ The paragraph indicates that no teacher who has not passed a satisfactory examination in this subject is granted a certificate or authorized to teach.

Curtains and Concentration.

(These suggestions are worth the attention of every primary teacher.—Ed.)

A CURTAIN across the blackboard is a great convenience to the teacher of a primary grade. There are many occasions when one may wish to have the class take in as much as possible at one glance, then test the memory as to what was observed. A curtain from four to six feet wide mounted on the ordinary spring roller is entirely out of the way when rolled up and costs very little. In some rooms two small ones may better than one large one.

Suppose the teacher wishes an exercise in rapid addition. Several columns may be placed upon the board under the curtain before school begins. When ready the curtain rises, a fair chance is given for adding rapidly one column and the curtain drops. When results are named, the pupils may be given a chance to verify their answers, and then another column may be taken. Again, the numbers may be written while the children are looking and the curtain dropped the instant the last number is written. They will all work with the utmost concentration in order to get the work done before the column disappears.

Many children need special eye training to assist them in reading. Many of the words having a general likeness, such as, *though*, *thought*, *through*, may be put under the curtain and the children asked to tell which one was in the upper left hand corner, which in the center, etc. The pleasure of being first to be right stimulates them to concentration of effort. Whole sentences may be written and the children given just time enough to read one before the curtain drops; then one may be allowed to give it. Another look puts them in possession of a second sentence and so on until all are read. In an exercise with sentences written on the board it is often well to require all the children to *write* what they saw while the curtain was up. This leads to the habit of seeing words and sentences as *wholes*, a very important consideration when children are required to copy any work.

Many times the primary teacher is troubled to find time to correct the slates on which the pupils have prepared a a language exercise. In certain lines of work, the correct form may be placed upon the board before school. When the children have completed their work, the curtain is raised and the children allowed to compare their work with the correct form.

Many observation exercises both enjoyable and profitable to the children will suggest themselves to the teacher. Lines of different length may be placed on the board and the children led to judge the length of each; lines of the same length but placed in different positions, thus misleading one not experienced in forming judgments on such matters; simple drawing of solids *e. g.*, cube and cylinder of the same height but not placed on the same level,—the children representing on slate or board exactly what they saw in their quick glance behind the curtain.

Throughout all this work keen interest is felt by the children; attention is fixed upon the special features which the teacher desires to impress and mental energy is concentrated to such a degree as to leave a definite mental content.

—*The Western Teacher.*

A Public School in Paris.

(The following letter is from the pen of a valued contributor of PRIMARY EDUCATION, who is at present studying in Paris, but who does not forget to look after the little children even in a strange country.)

Dear Editor:

Although a visit to a public school in France is by no means so simple a matter as in America, yet through the kindness of one of the Inspectors of public education in this city, we were accorded an introduction to as many classes as we chose to visit, and it may be that the impressions which we received will be of interest to some other American teachers.

If one remembers that "Paris is France," and that educational affairs are here regulated by national not local government, it will be understood that a fairer estimate of the school system of the country in general may be formed by a few visits in this city, than could be gained with us from similar visits in any one American metropolis.

Patriotism evidently is the first lesson that every youthful citizen of this republic must learn. Above the entrance to each school building floats the tri-colored flag, beneath which one reads the motto dear to every French heart, "*Liberté, egalité, fraternité.*" The pretty little exercise called "Saluting the Flag," which is practised with much effect in some of our own schools, has favorably impressed our friend, Monsieur the Inspector, and will, no doubt, shortly be introduced here.

Once within the building, one finds much to remind one of home. Here is the same spacious courtyard for recreation in fine weather, with large, well-ventilated gymnasium in which the children may exercise on stormy days, and beyond, a dining-room and kitchen, where, every noon, they may obtain nourishing food at but slight cost. On the second floor one finds the same long corridors with class-rooms opening on each side, and the same abundance of maps, charts, and shelves of books and specimens ranged upon the walls. One is greeted on entering a class-room by the same array of eager animated little faces, and there, the resemblance ends. One feels instinctively that something is lacking; that something of the brightness and warmth and homelikeness of an American school is missing.

Not because the children (whether boys or girls) are arrayed from neck to ankles in black pinafores, for certainly whatever of picturesqueness is lost by this custom is more than atoned for by the general air of neatness and tidiness which is gained thereby; nor is it altogether because the rooms are smaller and have a more crowded appearance, owing to the use of double benches. One misses more than all else the flowers and potted plants, the pictures, and the hundred and one bright decorations which an American teacher is always devising to make life as cheerful and attractive as possible for her caged birds.

France, indeed, is conscientious, painstaking, and generous in providing for the educational needs of her future citizens; she spares no expense in supplying them with every comfort and convenience which she deems necessary for the furtherance of their mental, moral and physical training, but she has yet to learn that consummation of pedagogical skill, the art which presents learning to the child in its most fascinating aspect, and which beguiles him into hard work while he believes that he is enjoying himself.

When one picks up a primer of the lowest grade, and finds such sentences as, "An enraged dog is a dangerous animal," or "Egypt is a tropical country situated in the north of Africa," one shudders for the infantile mind that is required to wrestle with these polysyllabic efforts, until it is remembered that the French language contains very few monosyllables as compared with our own, and that the earliest training of these children is for pronunciation, not expression; for sound, not sense.

It is surely, however, no slight compliment to our own methods, that the Board of Inspectors in this city, after a careful perusal of some of our school readers, has in preparation a set of French readers, which will be introduced into all the public schools when finished, and which are to be modelled as closely in accordance with our present American mode of teaching this study as the difference in the two languages will allow.

The Grosselin Methode Phonomemique which is employed in the lowest grade is quite interesting. According to this method, every sound has its equivalent not only in a letter or combination of letters, but in certain motions of the hand as well. For instance, *s*, (or *c* soft) is accompanied by an undulating movement of the hand to represent the gliding of a serpent. It is a pretty sight to see the children spell words by sound and motion, but according to a teacher in one of the higher grades, this becomes rather a hindrance than a help to good spelling.

The writing, judged by the French standard, is excellent. Here, children use pen and ink as soon as they begin to write at all, and their little copy-books are marvels of neatness. Every child learns three or four different styles of writing, some of which are merely ornamental forms of print, and the straight, stiff, round formation of the letters might well horrify an admirer of our Spencerian system. Serious work in drawing and music is not begun so early nor carried to such finish as in our city schools, but in the industrial department of school work the greatest pride is taken.

Regular text-books are in use, and a French girl not only learns to do most exquisite needle-work, but she can take measures, cut and fit a pattern, and make any article of clothing for herself or family by the time she is sixteen. This is considered a most important branch of school work, as indeed, why should it not be?

At the Musee Pedagogique, which is a museum devoted entirely to the interests of education, we were shown a marvelous collection of industrial work by the children of the public schools in all parts of France, and it is from this collection that work was chosen for the Chicago Exposition. The instruction in this branch which the boys receive is such as will fit them to follow various trades, but does not seem to equal in skill that of girls of the same age. Nowhere above the kindergarten do boys and girls attend the same school, and the question of co-education has but recently begun to be agitated here by an educational society called the Anglo-French Guild.

At a lecture held in the Musee Pedagogique under the auspices of the Guild a few weeks ago, this subject was quite ably discussed by Mademoiselle Dugard, and it is rather interesting to note that the argument which she presented most favorably to her French audience was that of the morally elevating influence which is imparted by the co-education of the sexes.

One is pleased to learn that corporal punishment is strictly forbidden, and serious disciplinary trouble is exceedingly rare, while many little rewards, in the way of good reports, picture cards, medals, etc., are constantly offered to stimulate the children's best efforts. As a rule, "Children, that is not polite," seems to be a sufficient rebuke for any misdemeanor. Not much has been said of the recitations which we heard, as they contained but little of unusual interest. We found geography most entertaining, and when a teacher mildly remarked, "I have a friend in America, but I daresay you have never met her, she lives in Nicaragua, and I suppose that is quite a distance from Boston," we felt a delightful sense of superior knowledge, until it was discovered that we were in absolute ignorance concerning Jeanne Hachette, a historical character as well known to every French child as Jeanne d' Arc. After all, a matter is of importance or not, entirely according to one's point of view.

One would like to write more of the children themselves, of the fifty or more pairs of mischievous, fun-loving black eyes, with only here and there a serious pair of Saxon blue, that are turned upon one as the owners rise to greet an entering visitor; of the many bright unexpected things they do and say; of fifty things, in short, which space will not allow, but all of which make one feel that in the eastern or the western continent, children are much the same the world over, with trustful hearts and eager minds, ever open to receive the best that we can give.

Paris, 1894. HELEN C. BACON.

Science in Winter.

By STELLA SEED, Greeley, Colo.

IN what does a child find greater delight than a snow storm? What need have we of a wider scope through which to direct his inquiring mind than is afforded by a study of snow crystals?

These can be best examined as they fall upon a black surface. Let the children gather, in this way, and compare crystals from different storms. They will notice that during a light storm the most unique forms are found, and that when a snowfall is accompanied by a cold, driving wind the crystals are often drawn into little, round masses.

To distinguish form and structure minutely a magnifying glass is needed. Let pupils compare the temperature of the atmosphere during a fall of "dry" snow, and a fall of "wet" snow. Speak here of "snow dust" and ice needles of the cold countries. Lead the children to discover that flakes of one storm are generally alike in form but often differ from those of other storms.

After they have learned that the crystals they have found are all six-sided, tell them that there has been noted several thousand designs but that in each the hexagonal plan has been preserved.

Let pupils make enlarged drawings of designs they find. These may be made on black paper with a white crayon pencil, or older pupils may use white fluid. After a goodly number of designs have been collected a "snow flake border" across the top of a blackboard will serve to keep alive the interest in the drawing, and urge closer observation. For every child will be anxious to find a new design to be added to the border. This border will be prized because it is a representation of their own discoveries; each section means something to them, hence is an incentive to effort, as well as serves to beautify the room.

Talk about the uses of snow. How with dry leaves and grass it protects the myriad roots and bulbs, and so helps to give back the green grass and flowers when the spring sun shines again. How on the high mountain tops moisture is held in form of snow until the dry summer winds melt it; then it trickles along over rocks gathering into larger streams, rushing down the mountain sides with might and force, turning the wheels of factories, mills and mining machinery, until at last it reaches the parched plains below. Western children will understand how low would run the irrigation water did not the mountain snow supply it.

Call attention to the frost work on the windows. Many artists and designers get suggestions for their work from these "frost paintings."

Don't forget to say something of the pleasure element in snow and ice. Coasting, skating, toboggan slides, snow-shoes, etc.

Some may differ from me, for I believe it is a good thing for children to see that it is really of great use to be able to enjoy all these things that bring us good; that they will grow into manhood and womanhood stronger of heart and purpose because their thoughts have been of pleasant ways; because they know mirth can exist in this work-a-day world. Even if this is not true, give them the happy thing snow — hard cold facts come soon enough.

Many an interesting lesson can be had studying our little snow-birds.

When we have talked of snow and all its uses in our own country let us take an imaginary journey through the Arctic regions. Here we find men living in snow huts, drinking snow-water, and riding in sledges. Study the animals and sea fowls here; their uses to man; their habits; their means of protection and defence. Many of them are white. Of what use to them is their white coats? Why do their bodies contain so much of oily substance?

Read stories and traditions of these Northern lands. There is so much literature, that, with a little thoughtfulness on the part of the teacher, can be adapted even to the smallest child in our primary schools. Sketches from "The Land of the Midnight Sun," "Northern Travels," by Bayard Taylor, Whittier's "Snowbound," "The Story of Agoonack," from "The Seven Little Sisters." Adventures of men who have tried to sail through the North waters, etc.

Talk about the length of days and nights at different seasons. Explain the position of the sun in winter; in summer. Let the children draw a conclusion why it is colder in winter. Note where the sun rises, then watch the gradual change as the spring days advance. Teach causes of seasons. Where is snow always found? Contrive to let steam pass from a window into clear cold air so the children may see its cloudlike form changed into flakes or mist.

Late in the season watch ice and snow thaw and pass away; the big cracks in the earth disappear. Then we will have to find new fields for our science work.

Elaborate or simplify these points as you judge wise, but let us do away with the notion that winter is a time of dead things. Show rather that it is a time of busy preparation, and that its active agents are just as attractive and beautiful and useful as those of any other season.

A "Holmes Day."

Dear PRIMARY EDUCATION:—

Perhaps you will care to hear how my children spent an hour last Friday with dear old Dr. Holmes. It is the plan of the city superintendent to have little societies formed in all rooms beginning with the fourth grade.

As the death of our last great poet of 1809 was so recent, they asked that the first might be a "Holmes Day." The school had a short time before been divided into three literary divisions, each division preparing a program from the list prepared by the teacher. Each child was given its choice as to a story or recitation with but one restriction,—it was to bear in some way on the subject for that day.

During the two weeks before meeting we had studied "The Chambered Nautilus," trying to take a little of its beauty for our own. In our talks about it, the children had told many incidents gathered from the daily papers and cultured home circles, so that we felt as if we were to meet an old acquaintance. On Thursday each child, in a note laid on the teacher's desk, informed her of its choice, and a program was written out and given to the president. As the children were so young, all motions were written out and entrusted with the least timid ones.

As society time approached several of the mothers came in. The society was called to order by the president, as the teacher is but a member of the society. The constitution and by-laws were read by the secretary. Then followed song and story of the dear old man who was always genial. We laughed at the bright humor of the selections, and thrilled with "Old Ironsides." To give variety we had music from two banjos and a mandolin. Time sped so fast that it seemed but a few minutes before the bell rang for dismissal. As they left, mothers and children showed their appreciation of the change from the usual routine of school life. In the future we are to have a paper at each meeting — the articles to be written by those not taking part in the other exercises.

A. L. P.

Seattle, Wash.

A Seed.

A wonderful thing is a seed,
The one thing deathless forever,
Forever old and forever new,
Utterly faithful and utterly true;
Fickle and faithless never.

Plant lilies and lilies will bloom,
Plant roses and roses will grow;
Plant hate, and hate to life will spring,
Plant love and love to you will bring,
The fruit of the seed you sow.— *Selected.*

Insect Study in the School-room.

By Florence Bass, Indianapolis, Ind.

SCIENCE or nature-teaching as regards plant life is simple enough comparatively, but in these progressive times we do not wish to stop there. The field of entomology also opens before us, and it is much more difficult in many ways.

How can we, as primary teachers, do our children the most good and the least harm in the study of this branch? is a question worthy of careful consideration.

The specimens for study in this line are less accessible, less easily handled, are not only less poetical, but on the contrary are subjects of dislike to most children and of terror to others. The only thought that comes to many children at the sight of an insect is to kill it at once. How shall we meet this dread of insects?

It is pretty well agreed upon that the poetical view should be first presented to the children. Can we do that by starting him out with a poison bottle and instructions to make a collection? Than shall we take various specimens and mount them upon a card with a pin, and label with their Latin tags? Shall we spend our efforts in teaching that the parts of a true insect are head, thorax and abdomen — that it goes through the various stages of egg, larva, pupa and imago — and that all insects are divided into certain great orders, and when a child can finally say to which order an insect belongs, then he has reached the desired ultimatum?

I do not wish to say that it is not well enough for all of these things to be done. Someone must have done the collecting, killing, dissecting and examining of insects, or we should not be so rich in knowledge of them as we are. But we do not expect to make scientists of our children. We may hope to make better, wiser, more thoughtful children of them all. Can it be done in the way I have suggested? Rather leave such things for those who have a natural inclination in that direction, and try to find for the little ones in general the things that will interest and benefit them all.

One other state of child mind needs to be mentioned just here, which is well illustrated by the experience of a little girl I once knew. She was in a class just beginning the study of Zoology. The first thing her teacher told her to do was to take a crawfish and separate it into its various parts and mount them upon a card with names attached.

Instructions were also given to the children how to make a collection of insects. It would be hard to describe the misery of that little girl. Why! she had never touched a "bug" in her life; she shrank from them in horror; besides, she had never killed anything. It was simply out of the question; she could not do it. She went to her teacher in dismay. She tried to explain to him that she could not kill anything; that she could not pull it to pieces. He looked at her as if she were a new specimen which he did not understand and did not care to see. He finally said he would excuse her from making such a collection as he had asked if she would make a collection of all the dead flies she could find. As it was in the fall of the year, you could scarcely expect any reasonable little girl to consent to such a proposition. There was nothing to be done except for her father to seek the superintendent and have her excused from the subject entirely.

There are many others like this little girl. Shall we drive them away entirely from a subject that might be of benefit to them? Shall we make their lives in school full of dread for fear we shall ask them to handle or kill some live insect? Instead of such teaching, let us lead the children to feel that insects are a race of little people carrying on their own industries, building their homes, defending themselves, providing for their little ones, and going about their daily tasks as busily as real people.

Shall we have specimens in the school-room? Certainly, if it is possible to do so without hurting them. They may be put into a box with glass on the top and kept for a short time; there they can be plainly seen, and no littte girl need be so fearful of their getting upon her that she will not be in a state of mind to consider them.

After they have been carefully observed, let them seek their natural haunts. Anything that can be kept in an aquarium will be of the greatest interest to children. Ants can also be kept in the school-room. Cocoons and galls of various kinds are prolific in interest. Old nests of mud-wasps and paper-making wasps, of carpenter-bees and worms, are very interesting.

If the children see such things as these and hear about the builders, a thousand new interests will be added to their daily walks. Will they not stop to watch with wonder and delight when they find these little people at their work? Instead of taking pride in killing such, will they rather not step aside to spare even the life of a worm?

If we achieve such a result we have surely made the children better — more considerate of life itself — kinder in spirit.

Form, Color and Language.

(This is a specimen page of one form of language work done in Kansas City, (Mo.), to combine form and color. The effect of shading as shown in this cube was produced by the pupil, by means of different shades of violet paper, so laid as to represent a perfect cube. It is to be regretted that the beauty of the coloring cannot be shown here.—Ed.)

Raymond Balis. Miss Douglas.

A Class, Grade II. Oakley School.

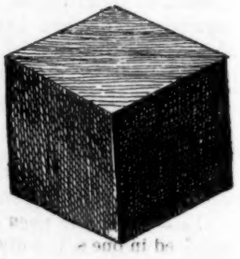
This represents a cube.

It has twelve equal straight edges, eight square corners twenty-four right angles, and six square faces.

Each face has four equal straight edges, four square corners and four right angles.

Its color is violet.

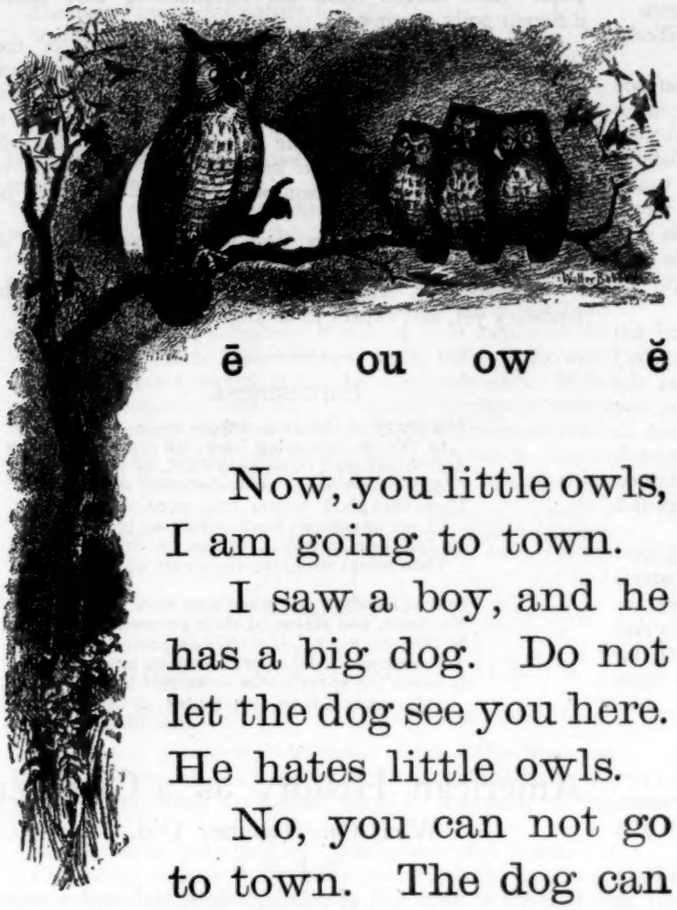
The complementary color of that color is yellow.



What the Children Think.

A little girl whose school was about to be changed, said the other day: "I do hope the new teacher will be like Miss ——," mentioning the name of one of the teachers in the school she was to leave. "Why?" was asked. "Oh, because Miss —— made everything so interesting. There isn't any use of my studying arithmetic unless the teacher likes arithmetic." The child had struck the very heart of education. It is an impossible thing for any teacher to teach who is not interesting, and to be interesting she must love her work. It is rather difficult for a teacher to continue interesting if the public acepts her passively, and if she is made to believe, because of the attitude of that public, that her business is to sit in a chair and hear children recite. But if the teacher is made to feel that the public recognizes in her, or him, the prime factor in education; that character as well as book-knowledge has a place in the school-room; that personal appearance is not a matter of indifference; that manners have a legitimate field, that thay are, in fact, object-lessons to the ten, twenty, or sixty children in the class-room, the teacher is forced to a new understanding of the public relations of a teacher.— *The Outlook.*

LESSON XIX.



ē ou ow ĕ

Now, you little owls, I am going to town.

I saw a boy, and he has a big dog. Do not let the dog see you here. He hates little owls.

No, you can not go to town. The dog can not see you now.

Reading.*

LESSON XIX. ē, ĕ, ou, ow. *now, owls, town, hē, lĕt, hēre, our, found, nĕst, how.*—To learn the sound of short *e*, say *end*, and observe the first sound uttered. Teach the pair (**ē, ĕ**), after which place it on the Sound Board.

DIPHTHONGS.—When two vowel sounds are united and pronounced in one syllable, as if they were but one sound, they form a *proper diphthong*. Thus ī (though represented by but one letter) is really diphthongal, being compounded of ă and ĭ, the two sounds gliding into one another. Commonly, only such diphthongs as are represented by two letters are so called, and of these there are but two, each being represented by two combinations of letters; *ou, ow; oi, oy.*

The union in the same syllable of two vowels, only one of which is sounded (as *ai* in *rain* , and *oa* in *boat*), is called an *improper diphthong.*

To learn the sound of *ou* say *out*, and observe the first sound uttered. Notice the position of the lips as this sound is made—the rounded lips are drawn together.

Write **ŏw = ou** on the Sound Board with the vowels.

READING.—In developing *now, owls, town, found, our,* and *how,* teach lhe child to say "*ou* or *ow* (naming letters) is sounded *ou*" (giving the sound heard in *oot*); then have the word sounded and the sentence read.

In *he*, teach that when *e* is the final letter and only vowel in a word, it is long; as in *me, we*, etc. Have the child say, "The vowel *e* is long, because it is the last letter and the only vowel in the word—*h*-ē, he."

In analyzing *nest*, teach the child to say, "The vowel *e* is short because it is followed by more than one consonant—*n*-ĕ-*s*-*t*, nest." (When a vowel is followed by more than one consonant, no reference need be made to the absence of final *e*.) Have the words *rest, fond, hand,* and *best* developed in like manner.

If, at any time, a child is unable to instantly pronounce a word which has been developed in a previous lesson, have him develop the word again. Of course, this method will occupy more time than if the teacher or a classmate pronounced the word for him, but the exercise of thought upon the word is just what the child needs, and it will prepare him for future work. In not insisting upon each child's doing his own thinking, the teacher not only cripples the mental powers of the child, but increases her own labor.

In connection with this lesson, teach the words *singular* and *plural*. Tell the children that if a word means only one, as *boy*, it is singular; but if it means more than one, as *boys*, it is plural. Use a number of words, oral and written, to teach singular and plural, and drill in the regular formation of plural from singular nouns by adding *s*. Use the words in the list in additional script sentences.

WRITTEN WORK. SLATES.—Write the following sentences on the board, have them read several times, and then copied on slates: **The owls are not going to town now. A boy saw the big owl and the little owls in a nest.** Have the first three sentences in the book copied on slates.

WRITTEN WORK. BOARD.—Use the sentence, **Have you seen the owls, Willie?** according to the method given in Lesson XVII., the children copying each word as the teacher writes it. After the children have finished writing the sentence, let them talk about it.

Let one child begin by saying, "I wrote *have* (all touching *have*) with a capital letter, because it is the first word of the sentence." Then have another child say, "I placed a comma (all touching the comma) between the word *owls* and *Willie*, because I am talking to Willie. Still another child, "I wrote *Willie* (all touching *Willie*) with a capital letter, because it is a boy's name." And another, "I placed an interrogation point (all touching the interrogation point) after the sentence because the sentence asks."

Repeat this exercise in regular order, until all the children have been heard from, and follow the same plan with all the sentences written on the board by the children.

SOUND DRILL.—Have the sentence, **I see a hen,** written, read, and punctuated in the same manner as in previous exercises of this character. Erase *see*, pronounce *fed* slowly, and have the children write the letters representing the sounds. Ask whether the vowel sound is long or short? If short, *e* need not be added. Use *cake* and *gave* in the same manner, and since the vowels are long have *e* added, before the chalk is lifted from the board.

Do not allow any incorrect form to remain before the eye long enough to make a permanent impression on the mind.

Whenever a word containing a silent letter or letters is spelled (sounded), each silent letter should be named and its position in the word stated.

Write **our**; have it pronounced, and by changing a letter or letters, have the following words formed and developed: *sour, flour, loud, cloud, sound, found, round, pound, brow, brown,* and *clown.*

Write **here**; have it developed, and, by changing a letter or letters, have the following words formed and developed: *hens, men, mend, pen, spend, then, them, hem.*

The work of Lesson XIX. will require both time and patience, but if thoroughly done, the children will have gained what was well worth all the time and labor expended—thorough preparation for future work.

*This work with accompanying cut is taken from *First Lessons in Reading* by MISS FUNDENBERG, by permission and courtesy of American Book Company, Publishers.

One Tendency of Teaching.

By E. D. K.

"I NEVER heard Miss M—— speak well of anybody. She seems to see no good in any one."

"O, but *I* have, over and over again and in defence of the most unpopular people, too. She is a fearless, conscientious woman and is not afraid to say what she thinks, for one thing, and that leads her to say a great many unpalatable things that others who believe precisely as she does would not dream of saying Yet I know exactly what you mean, when you say that she is exceedingly critical and is very much inclined to see first the blemishes on people and things. To see her in a half hour's call, you might be conscious of only that side of her."

"Yes, you are right, I have met her three times and felt each time after I had left her as if I had come in contact with a dissecting knife. I am not prepared to say that she gave even a shading of untruth or slander in anything she said. But what right has any woman,— especially one in her position and of her intelligence — to throw a search light on every individual or public scheme that is mentioned as if her special mission on earth was to dig out motives and hunt for the wrong side of things. *I* don't like it."

"Neither do I. But Miss M—— has not the slightest idea she is doing this when she is following out her natural instinct to analyze people and things and see what they are made of. This unfortunate tendency gets her into no end of trouble and makes her plenty of enemies too,— and no woman living cares more for her friends or would do more to deserve them than *she* would."

"Then why don't she stop it?"

"Simply because she is totally unconscious of it."

"Then, if you believe in her so thoroughly why don't you go and tell her of it? You'll take your life in your hands, though, to criticise *her*;—I can tell you *that* before you start."

"There is where you judge her wrongly again. I have never seen a human being take kindly criticism as readily as Miss M—— will. She has a noble nature, above petty resentments and she will accept this revelation of character from me in an impersonal way and will go straight to work and begin to analyze it to see if it is true. That woman uses her scalpel just as she does her pen — conscientiously.

"But there is one reason for her unfortunate habit of mind that neither of us have considered."

"Well, what?"

"*Miss M—— has been a public school teacher for fifteen years.* A good one, a strong one, and accustomed to difficult positions and places of responsibility where she was compelled to study and analyze motives and circumstances, to judge impartially and justly. Now do you suppose any woman of her strong convictions can enter the school-room at an early age and pass all the formative years of her life in "settling things" as a teacher and not acquire a habit — a cast of mind that will be noticeable in her whole after life?"

"Well, I am glad *I* never taught school, if I am to sit in judgment on everybody forever afterwards."

"Why, my dear woman, what are you doing this very minute? You are out doing Miss M—— herself in your denunciations."

"Well, I am not 'down' on *everybody*."

"Neither is she. But you have no idea, if you have never been a teacher how great is this tendency to "lay down the law" in your tone and manner as well as words after you have left the school-room; I speak from experience. I was a teacher myself about ten years before my marriage and my husband used to say that I never attended church or a play or a concert that I wasn't seeking for the weak places everywhere; that I saw all the faults instinctively and spoke of them at once. The part that was "all right" I didn't say anything about — because — why — of course, everything should *always* be all right. There was no occasion to mention that.

"And even my way of requesting some trifling service of him was so characterized by that peculiar school-room manner that he would often pause with a quizzical, "Well, school-ma'am," that brought be to myself and indicated unmistakably that the school-boy John and the 'private pupil' John looked upon the commanding tone from a different point of view.

"Teachers are compelled by the very nature of their work to expect errors and to look for them, to detect shortcomings and to make the wrong right, from morning till night, day after day, week after week, year after year, till they unconsciously acquire the mental attitude of *pouncing on an error like an animal upon its prey.* Can't you see how this may be one reason why Miss M—— "lays out folks" as you say?"

"Perhaps. But *you* are not like her now, if you *did* teach school."

"Perhaps *not*, now. But I have to fight that same tendency yet, and expect to as long as I live."

Earnestness.

The hurry of the times affects us so
In this swift rushing hour, we crowd and press
And thrust each other backward, as we go
And do not pause to lay sufficient stress
Upon that good, strong, true word, earnestness.
In our impetuous haste, could we but know
Its full, deep meaning, its vast import, oh,
Then might we grasp the secret of success.

In that receding age when men were great,
The bone, and sinew, of their purpose lay
In this one word. *God likes an earnest soul*
Too earnest to be eager. Soon or late
It leaves the spent horde breathless by the way
And stands serene, triumphant, at the goal.

—*Ella Wheeler Wilcox.*

American History as a Civilizer.

What One Teacher Did.

By E. H. T.

I HAD a room full of third graders, and *such* a room! The school was a branch of one of our large public schools. The house in which it was kept had been built for stores and flats; my room was of a peculiar shape; I had two short rows of six seats each, and four long rows of thirteen seats each. Each seat was full, and O, those children! Some of them were as wild as the prairies about them. A great many of them were Italians. The school was in the extreme southwestern part of Chicago, houses were few and children many. Many of the children had never attended school before.

After the first day I went home in despair. What should I do? I had but one set of supplementary readers, and they were far too hard for my children. For a few days I stuck to their own readers; by that time I determined that those children should have some *reading.* I wanted to give them stories of their own country; I could not afford to buy what I wanted, so I made a book of my own. I wrote the stories simply, myself; I took as many copies as I needed from a home-made pad; the selections I used, I copied likewise.

Perhaps you think those children didn't enjoy it. Why, my boys went wild. They played Red Coat and Continental at recess, they wept over Major Andre, even though a Britisher, and the thrill in their voices when they recited Paul Revere's Ride in concert, would have awakened anybody who had one drop of American blood in his veins. Even Tony, my bad Italian boy — my thorn in the flesh — came to me one day at noon and said, "Teacher, I licked Bert 'cause he tried to make me be Britisher twict to his onct."

Teachers, I felt paid for a year's work. I had awakened patriotism, love for our own dear America in a foreign breast. I had made Tony an American. A little had been done towards solving the emigration question. I send my topics for each month. My reference books I will name to any one who wants to know them.

September, Columbus.
October, Early British Settlements.

November, Revolution.
December, Story of Country to 1812.
January, War of 1812.
February, Story of Country to 1860.
March, War of Rebellion.
April, Story of Country up to Date.
May, Great Inventions.
June, National Questions and Conditions.

The selections used, — romantic tales of time and poems bearing on subject — I allowed the children to take home to read to parents.

Perhaps you think that there is a great deal of work necessary to accomplish this. Not near as much as the good you will gain; your children will read *well*, the tone of their voices will show their interest, you will give them a taste for good reading. I have tried this plan for two years and you will like it, I know. It will be your own work for your own children and will suit them, try it. PRIMARY EDUCATION gave a capital recipe for a copying-pad. Make your copies during vacation. I always prepare a year's work in language and literature then. My reference reading is good for mental cultivation, and roots out the weeds of ruts and fads, and the idea of working for examination.

(This bit of experience is rich in originality. It comes into some of our stiff, mechanical, "fixed-up" schools, like a strong life-breath from the prairies. Its full and determined tone is a tonic for *teachers* as well as American citizens.— ED.)

Language in Primary Grades.

From Syracuse (N. Y.) Putnam School.

As Putnam School is located but a few miles from the Indian Reservation, the home of the famous Onondagas, the pupils found much to interest them in the study of the Indian.

In this work the spirit of investigation and research is cultivated for each morning many specimens of basket and beaded work made by this once famous tribe, were brought by the little folks and closely observed, then talked and written about and finally pictured.

There is a wide scope for development of the imagination in this picture work.

The drawings though crude are a representation of what the child sees as the subject is presented to him.

MARY L. DWYER.

The Moccasin.

The Indian used to wear moccasins.

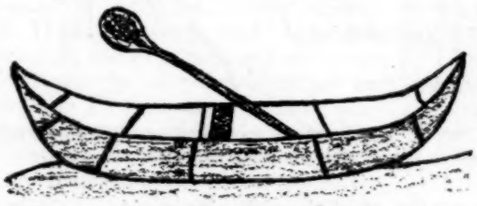
They make them now and sell them.

The moccasins are made of skins and have little beads on them.

My baby brother has a pair of mocassins that were sent to him from Canada.

I suppose an Indian made them.

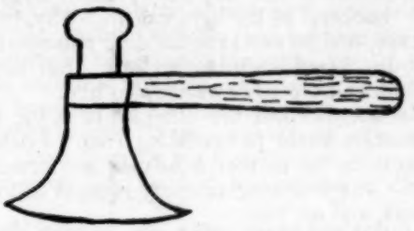
NELLIE AYLING.
2nd Grade.



The Canoe.

The canoe is used by the Indian.
It is made of bark and rope.
The rope is made of the fibre of large plants and trees such as the cocoanut tree.
Sometimes they use boats made of logs tied together with rope.
The Indians sell little canoes at the beach.

FREDDIE CLOOK.
3rd Grade.



The Tomahawk.

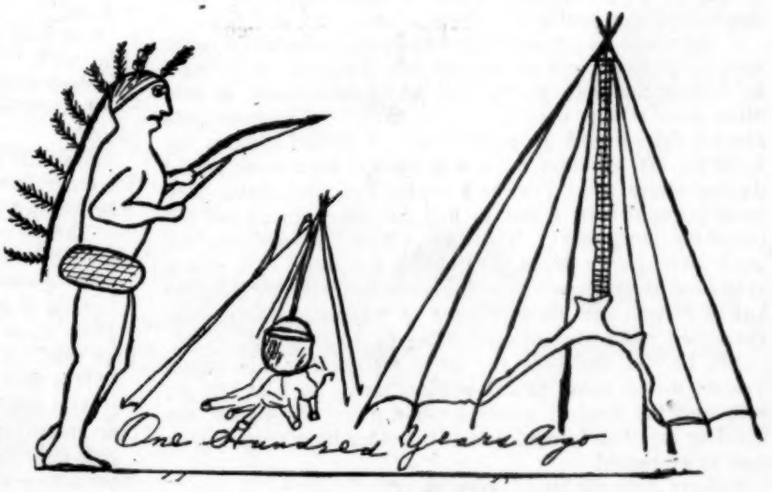
This is the tomahawk which the Indians use.
They use it to cut down trees and cut sticks with.
The tomahawk has a wooden handle.
The tomahawk is made of steel.
It has a sharp edge and has a point on the end.
The tomahawk is much like the hatchet.

HAROLD BURTON
3rd Grade.

The Indian Pipe.

The Indians make these pipes of stone.
The color of the pipe is brown.
It is very odd and we very seldom see them in this city.
The Indians like to do this work and it is very hard too.
It is very small.
Mr. Wilson the principal of this school brought it here to show us.
But he does not smoke it.

KITTIE DOYLE.
3rd Grade.



This is the way the Indian used to dress one hundred years ago.

The Indians used to live in wigwams a long time ago, but they live in houses now.

Soup is boiling in the kettle for the Indian's dinner.

HENRY EVANS.
2nd Grade.

Tom, the Little Hookey-Boy.

By Frances Wright Potter, Washington, D. C.

"WHY, do you know,—Tom, he's playin' 'round, an' he says he ain't comin' to school at all," was the startling information whispered to me one morning. I heard it from several sources before the day was over. Evidently Tom, the black lamb of my first grade flock, had determined to find what pleasure might be in the game of "hookey," as the boys call it. Why, in the name of prudence, had he not kept his dark schemes to himself? A truant discovered is a truant undone. But Tom is only a six-year old, and the game was new to him.

I immediately hushed the little tell-tales, for I had great fear that others would be emulating Tom. I determined to send a note to his mother if he was not forthcoming the next day. The following morning brought still more startling rumors, and no Tom.

School was over. The little troop of future American citizens had filed out, and I was left in that delighful silence known only to deserted school-rooms, when a woman entered, leading by the hand the familiar form of Master Tom. She had a decidly foreign appearance, I have thought since she must be Swedish. Her coarse, light hair, and blank, expressionless face bore out her motherhood for the boy.

"So this is the mother," thought I, "an example of the teacher's co-workers." She talked rapidly and excitedly, in broken English, impossible to reproduce. A crude kind of triumph sounded in her voice. "Here's my boy, Tom, and I've just found him out. I found him a-playin' out in the alley. He's not been to school to-day nor yesterday?"

I informed her sadly that such was the case.

"I *thought* he was a-lyin' to me. He told me he was at school, an' he was playin' in the alley all the time. He lied to me, but I beat him for it— oh, I beat him well for it," and she gave the victim a vindictive jerk. I glanced at Tom, but never a sign of intelligence could I see in his stolid colorless face. It wore the look I knew so well, and had wondered at—a look of utter blankness, expressing neither fear nor resentment. I understood it now. It was the look of the beaten animal.

A feeling of wrath against Tom's mother rose in me, but I merely said meekly, "Oh, do you beat him? Do you think it does him any good?"

"Well, I don' know about the good, but I *has* to beat him when I gets excited." Poor Tom! She went on in a calmer way. "So I brought him to you, ma'am, thinkin' you might give him a lesson about it as he might remember. I don' know [this reflectively] but a lesson might do him as much good as a beating."

I promised the "lesson," wondering meanwhile what idea it conveyed to her, and she left Tom with me. As I led him by the hand to the desk the question came, as it so often does, "What shall I do with him?" I hesitated one second, then I tried an experiment. I smiled and put my hand on his shoulder. Then if he had been some petted darling whose favor I wished to win, I couldn't have been more gracious than I was to that culprit, captured and left to me for punishment. To interest him I showed him the work we had been doing. I did him the honor of a glance at the roll-book page where the "absent-marks" were. At last he thawed and showed signs of returning intelligence. He smiled and answered me.

No, he did not want any more marks after his name. Yes, he would come to school every day. So I let him go, with only the kindest words I could give. As we left the building together I heard one of the older boys remark *sotto voce* as we passed:

"There goes the little hookey-boy."

Such was Tom's reputation, built up in two short days. The sequel to the story is that Thomas kept his word. One morning not long after, his seat was vacant and I assumed quite naturally but unjustly, that Tom was naughty again. That afternoon I received a caller,—a small tow-headed boy who said: "I come over to tell you my mother's sick, an' that's why I wasn't to school."

The Prism.

By Emma K. Parker.

A cold, white prism of glass: but lo!
Across the school-room's blank, gray walls,—
Across the children's restless hearts,—
A trembling band of color falls.

Red flickers into orange, pales to gold,
Green trembles into blue and violet:
And then the glory fades. But on that day
The seal of memory is set,

Color. V.*

The Six Groups.

By Henry T. Bailey, State Supervisor of Drawing, Mass.

WE began with the solar spectrum, Nature's palette, set with her purest colors—"right from the tubes" as an artist might say. We found echoes of this everywhere.

"The rainbow forms and flies on the land
Over the islands free.
And the rainbow lives in the curve of the sand;
Hither, come hither and see;
And the rainbow hangs on the passing wave
And sweet is the color of cove and cave."

Studying the spectrum we discovered six different colors which after a little we could recognize and name, but we used the names as class words — a live coal and a Russia leather pocketbook were both red. As our color perception became more definite we were enabled by repeated impressions to set up in mind six standards of color with which all other colors were to be compared and by means of which they were to be classified as lighter or darker than the standards.

As the pupils become more sensitive to color sensations they may be led to see that this rough classification of "lighter" and "darker" is inadequate.

Select from your package of colored papers, yellow-green, green tint No. 1, green shade No. 2, and blue-green. Hold the yellow-green paper before the pupils and ask them to name the color. You will be told "green" and "light green." Next hold green shade No. 2 before them. They will call this "green" and "dark green." Green tint No. 1, will be called "green" and "light green." Blue-green will be called "green" and "dark green." Each paper alone, gives the general sensation of green to all, though to some pupils one appears "light" and another "dark."

Now hold green and yellow-green before the class. (See Fig. 17.) "How does this color (x) compare with the standard (G)?

"Is it lighter than the standard?"

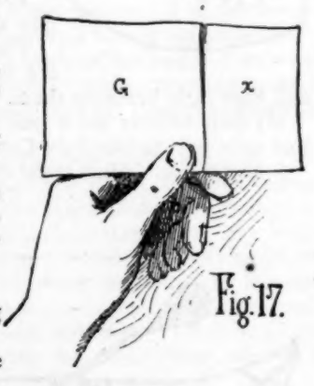


Fig. 17.

Substitute green tint No. 1, for the yellow-green, and see how the two now compare.

"The new color is lighter than the standard."

Put green shade No. 2, in place of green tint No. 1. "How does this color compare with the standard?"

"It is darker."

"And this?" (substituting blue-green.)

"It also is darker than the standard."

"But here are the two light colors together. (Green tint No. 1, and yellow-green.) Are they alike?"

"No."

"And here are the two dark colors side by side. (Green shade No. 2, and blue-green.) Are these alike?"

"They are not."

* Copyrighted by Educational Publishing Co., 1894.

"Here is a pretty chart for you.† Which of these is standard green?"

"Which are the lighter colors? Which are the darker colors? Can you find colors in the 'rainy day spectrum' like those of the side arms of the cross? Can you find a color in the spectrum like that of the upper arm of the cross? Can you find one like that of the lower arm?

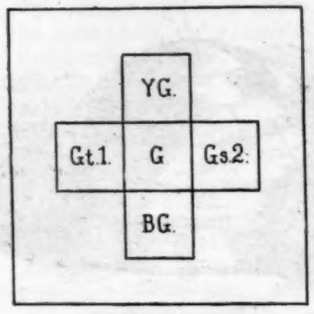


Fig. 18.

"Starting with standard green, in the spectrum, towards what other standard must you go to find the color of the upper arm? Yes, toward the yellow. This color then, is not only lighter than standard green, but *yellower*. We will call it *yellow-green*.

"Starting again with standard green, towards what other standard must you go to find the color of the lower arm? Yes, toward the blue. This color then, is not only darker than standard green, but *bluer*. We will call it *blue-green*.

"Now you see we may name all the colors. Standard green is the center, light green at the left, dark green at the right, yellow-green above and blue-green below.

"You may select from your tablets‡ the three *greens*. Place standard green in the center of your ground. Place yellow-green above the standard. Place blue-green below it. Can you see any object in the room having a yellow-green color? Anything of a blue-green color?

"For convenience these colors are called *Hues*. Any color produced by mingling two standards is a hue of the predominating standard. For example, place the green and yellow disks upon the color top (see directions for using the color top, in your color box,) with fourteen parts of green and six parts of yellow. Here are the two standards, the green predominating. Spin the top upon the yellow-green square, and compare the two hues. Substitute six parts of blue, for the yellow and spin the top upon the blue-green square. Compare the two hues. In this case green predominates again and the result is "a bluish sort of green," or better, a hue of blue green.

Have yellow-green objects collected by the children. Find a memory gem for them to enjoy. The poets call this hue "apple green" or "golden green." Are there such things as *green* leaves?

Blue-green objects are not so common; but many objects have little splashes of blue-green which are wonderfully brilliant, — the dragon fly, the humming bird and the peacock, for example, have no doubt been seen by many children. The children are fortunate who have seen the lovely hues of this color in the Great Lakes, or the St. Clair or Detroit rivers, or in thundering Niagara, best of all in the Atlantic in a storm. Do you know Lowell's "Pictures from Appledore?" There are memory gems for you, full of color. One of the truest pictures of the sea under the rage of a "northeaster" is to be found in the fifth section of this poem.

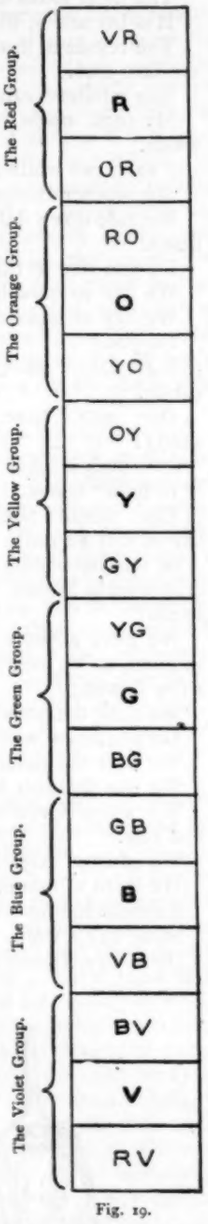


Fig. 19.

Having fixed in mind the hues of the green group as thoroughly as were the standards, lead the children to know the other groups in a similar way, reviewing them again and again until they are perfectly familiar.

The pupils should at last be able to reproduce the spectrum scale, Fig. 19, from memory, and to name the colors in order beginning at any point in the series.

It will be seen that two hues not found in the "rainy-day spectrum" have been added in this chart, one above red and one below violet. These are the result of mingling red and violet. Such hues are not found in the solar spectrum, but nature often uses them in flowers and in clouds and elsewhere.

The word "purple,"— a very indefinite term as commonly used,— originally designated a hue not far removed from one of these hues, namely, violet-red. Our "maroon" is a dark purple, and "magenta" a light purple as that term was understood by mediæval colorists, and even by Chevreul and the modern Germans.

The famous "Tyrian Purple" which later became the "Imperial Purple" of the Cæsars, and the "Royal Purple" of heraldry, was about what we call "crimson" — an intensely brilliant hue of violet-red.

Of course the hues are almost infinite in number; but these twelve are types of all, and by means of them all may be named. A smaller number of typical hues, for instance six, one intermediate between each pair of standards, is inadequate; and a larger number, as three between each pair, is confusing and the central hues are entirely superfluous. Any hue between green and blue must be either a green-*blue* or a blue-*green*,— one or the other standard predominating. Even were the two standards to be mingled in equal proportions the effect would *appear* to contain a larger amount of one standard — blue — and would be called a green-blue by one ignorant of the exact proportions.

Equal parts of R and O will appear as red-*orange*.
" " " O " Y " " " orange-*yellow*.
" " " Y " G " " " yellow-*green*.
" " " G " B " " " green-*blue*.
" " " B " V " " " blue-*violet*.
" " " V " R " " " red-*violet*.

If one is ever required to be more definite than to say "orange-red" in describing the color of any object, he might match the particular hue of orange-red by means of his color top, and then say "the color is orange-red in the proportion of six to fourteen" or whatever it might be.

It will be good practice for you to determine by experiment the proportionate amounts of standards in each of the twelve hues.

‡ For teaching hues, each child should be supplied with Third Year Set, Normal Course, Milton Bradley Company's Color Tablets.

† Upon a sheet of cardboard or thick paper eighteen or twenty inches square, arrange the four inch colored squares, as indicated in Fig. 18, fastening them in position by a tiny touch of glue near each upper corner, that they may be easily removed. The letters indicate the colors in their proper positions.

The New Year's Message.

"I bring you, friends, what the years have brought
Since ever men toiled, aspired or thought:
Days for labor, and nights for rest;
And I bring you Love, a heaven-born guest,
Space to work in, and work to do,
And faith in that which is pure and true.
Hold me in honor, and greet me dear;
And sooth you'll find me a Happy Year."

— *Margaret E. Sangster.*

Sitting and Walking.

In sitting, the child must be provided with a comfortable chair, adapted to his size and height. He should be made to sit well back in it, and not on the edge when he has to occupy it for any length of time. The back should, if possible, give support to the small of the back as well as the shoulders. In working at a desk it should be of such a height that he can easily see his work when sitting erect by bending his head, instead of inclining the body at the hip joints. The upright position helps to expand the chest and keep the shoulders in their proper place. Its use soon becomes habitual if it is insisted upon.

In walking, the heels should not be brought down too firmly. A part of the weight of the body belongs upon the toes, and when a due proportion is thrown there it gives an elasticity to the gait which is lost when it is not properly distributed. Walking with the heels raised from the ground is a good exercise, although a fatiguing one. Hopping on each foot alternately is another. Dancing is a valuable accomplishment for children. The consciousness of being able to dance well gives ease and self possession to many a young man and woman who would otherwise be bashful and awkward. Little people usually delight in the rythmical motion, and if it is not combined with late hours it does them nothing but good.— *Elizabeth Robinson Scovil.*

Blackboard Readings.

By L. W. P., Minneapolis.

The Eskimo.

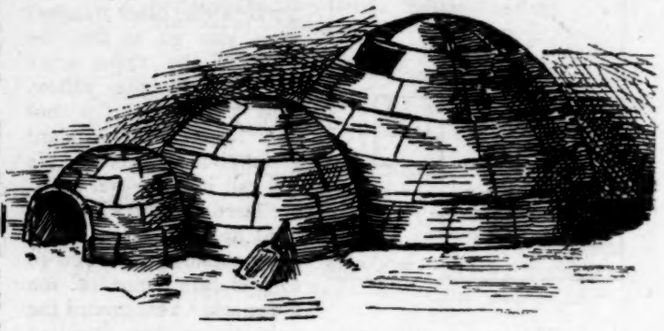
First Grade.

I am a little Eskimo girl.
My name is Agoonack.

I live in Greenland.
It is cold in Greeenland.
I live in a house made of snow.
We cannot make our houses of wood.
We have no wood.
Large trees do not grow in Greenland.
My papa makes our snow house.
He cuts the blocks of snow with a large knife.
Then papa covers the house with snow.
Sometimes I do it.
Here is the snow shovel we use.
My house is round like a half sphere.
Here it is.
There is one window in the house.
We have a piece of ice for the glass.
The door is so low down that we have to crawl on our hands and knees into the house.
The stove we have is not like your stove.
We burn oil in this stove.
We get the oil from a whale.
My papa catches the whale and takes out the oil that is in it.
We put the oil in our lamp-stove and burn it.
The wick is made of moss.
This warms our snow house.

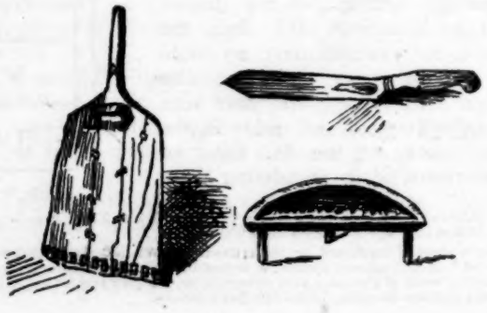
"The moss looks like this."

Our bed is made of snow, also, but we sleep in fur blankets.
The fur blankets keep us very warm.
My dress is made of fur, too.
What is your dress made of?
My papa catches the reindeer and my mamma makes my dress out of the skin.
I dress like my papa so I look like a boy.
I have a little brother named Boreas.
He has *such a dirty face* but I love him.
He is a dear little baby brother.
Boys and girls dress alike.
Did you ever see a reindeer?
We have no horses.
It is too cold for them in Greenland.
We use the reindeer for a horse.
The reindeer eats moss.



The moss looks like this. (See ill. in first column)
It is branching like a tree.
The reindeer has branching horns and feet like a cow — cut into toes.
The reindeer can draw a sled and run very fast.
My papa made me a sled out of the large bones of the whale.
I have two white dogs that draw me on my sled.
My brother Boreas and I have great fun with our sleds.
We ride down hill and shoot at deer horns while we go down.
Do you like to ride down hill?
We like to snow-ball.
We like to make a snow man.
Do you?
We have good candy.
Do you have candy?
Our candy is made of reindeer tallow.
You would not like it, but we do.
Do you have pretty flowers in Minneapolis?
We have a short summer, so we have a few flowers.

We have the sorrel. Sheep-sorrel.
Do you know what sheep-sorrel is?
We have the dandelion, too.
We like the dear little yellow dandelion.
We watch for it and are so glad when we can find the first one.
We can not take it to our teacher for we have no schools.
We learn at home.
I should like to go to school.
Some day I will send you a pretty doll that I made myself.
Good-bye, I must go now.



How Animals Live. IV.

January and February.

By A. C. Boyden, Normal School, Bridgewater, Mass.

DURING the cold months the children may be interested in watching the *winter birds* around them. Many birds remain with us or come down from the north, and can be seen along the roadsides, in the groves of evergreens, flying over the fields, or even lighting in the door-yards in search of food. On the farms are the domestic birds, chickens and ducks, with their thick coat of feathers, and in the streets of villages and cities are the noisy, fighting little English sparrows.

Watching the Birds.

Much interest may be aroused by counting the number of different birds that can be seen from day to day, and by keeping a list on the board. Among the list will be the following: — the black crows, flying over the fields, often lighting on the ground and walking about in search of seeds or berries; the flocks of English sparrows in the streets picking up bits of grain and other seeds, or possibly eating buds of the trees, quickly flying up into the trees when disturbed; the little black crowned chickadees fearlessly flying around in flocks, hunting for insects' eggs or dormant bugs in the cracks of the trees, sounding out their call *day-day-day;* the active little nuthatches with gray coats and white breasts, running up and down the branches of trees searching for insects or nuts; when one finds a nut it wedges it in a crevice of the bark, and pounds upon it till the shell breaks; on the trees may be seen an occasional woodpecker climbing about and tapping at the bark for insects, or flying off to find some rich berries; the slate-black snow-birds by the roadside or in the weed patch where they pick the seeds off of the snow; flocks of snow-buntings flying from place to place over fields partly covered by snow hunting for seeds left on the plants; an occasional hawk out hunting for field mice; the pine grosbeak busy eating the buds of the spruce or maple trees; and near the shore the gulls will be hunting for small fish or any refuse matter.

The children will see that winter has its birds as well as the warm summer, and many more than the foregoing will be seen by the nature-loving teacher. The enthusiasm will grow as they earnestly search for the answers to such questions as — what do they find to eat? where are their houses? what ar they doing all the day? how do they keep warm? what do they do in a snow-storm? do they lay eggs in winter? watch the tracks on the snow, do they run or hop or both? why are they active? do they sing much? "Our Common Birds" by Grant gives pictures to aid the teacher and interest the children. "A Year with the Birds" by Flagg give helpful information. The writings of Burroughs and Bolles help us to see the beauties of all nature around us.

Lessons on Feathers.

The different kinds of feathers, quills, contour or covering feathers, and downy feathers can be obtained, and form the basis of valuable observation lessons. In the *quill feathers* find the three parts, quill, shaft, and web or vane. (1) Examine the quill, scrape off the thin skin, notice the shape (cylindrical), that it is hollow and will be full of air; how will this fact help the bird in flying? is it thick or thin? teachers cut it, is it strong? what is it like? (nail of the finger) do you know how people used it? (quill pen.) (2) How many sides has the shaft? With what is it filled? (white pith.) Try to break it, what do you find? (strong and tough.) How will the shaft help the bird in flying? (3) What do you find on each side of the shaft? (long, flat web.) Are the two sides alike? Of what are they made? (little "leaves" that resemble small feathers.) Draw the finger up and down the sides, in which do the leaves separate? How can you smooth them again? How are they held together? (hooks that catch on each other.) How does the bird use them when flying?

Provide a stuffed bird and find where the quill feathers are (wings and tail), how are they arranged? How does the bird use them when flying? Examine the *body feathers*, notice how they are arranged and in which direction they point. How will this keep the bird warm? How help in flying? How does the bird keep them smooth and clean? How dees she oil them? When does she "moult" or shed her old feathers? Distribute specimens, and notice that they have the same part as the quill feathers, that they are of different sizes, and that lower part of each has some downy "leaves"; how will these help the bird? (warmth). Notice where the quill sticks into the skin, what is its shape? Examine some *downy feathers*, notice the fluffy appearance; how are they different from the other feathers? (no little hooks). How do they keep the bird warm? For what do we use them? Why? (light, soft, warm.)

Tell the story (with picture if possible) of the eider-duck which lives on the rocky coasts of the Arctic countries, builds its nest of twigs and seaweed, and lines it with down plucked from its own breast. Draw a quill feather in the upper grades and attach the names of the parts.

Parts of a Birds.

In the upper primary grades a pet hen, duck, or parrot may be brought in for a closer examination than can be made out of doors. Also stuffed specimens of owls or hawks will be large enough for all the children to see the parts. The following points may be suggestive in planning observation lessons. *Habits* — Where is its home? What kind of

a nest does it build? What does it eat? How does it keep warm?

Covering — color of the feathers on head, neck, back, breast, wings, tail. Special feathers like "ear tufts" of owl.

Which parts are not covered with feathers? Why not needed there? How far down do the feathers come on the legs? Will the colors of the feathers make it easier to see the bird or will they hide it? How does it keep the feathers clean?

Wings and Legs.

Are the wings long or short? How are they arranged? Will they help it fly a long or short distance? Why does it need to fly thus? How are the legs covered? How does the covering protect the legs? How many toes has it? how many in front? what kind of a hind toe? What kind of claws? What can it do with them?

Bill.

Of what is it made? Has it any teeth? Why does it need two parts? How can it pick up food? How does it hold the food? What kind of food is it fitted for?

Eyes, Ears, Nostrils.

What kind of looking eyes? (fierce, gentle, etc.) Has it the same parts as your eyes? How can it protect its eyes? Where are the ears? Can you see them on the outside? Why not? How is the dust kept out? Where are the nostrils? What is their shape? How are they covered?

Young.

What is their name? Do you know anything about them and her care of them? A simple lesson may be taken on the egg, noting the shape, the hard, brittle shell with its smooth surface, where does it get the material for it? The very thin, smooth skin, try to stretch it, and notice how soft it is, why should it need this? The "white" thick, sticky, almost colorless, also show some hard boiled. What is this for? Trace the story of the young chick and think of the use of the little air chamber in one end of the shell, also of the porous shell.

Expression.

The features and heads of the birds make good drawing lessons, and the other parts may be sketched and colored. A great deal of material is suggested which can be expressed in written language. The eggs can be molded in clay, also the nests of smaller birds with eggs in them. Many reading lessons may be selected on the habits of such birds as the eider-duck, owls, hawks, eagle, and possibly on our common winter birds. Pictures of birds of the cold countries will be useful. Bryant's "To a Waterfowl," especially if accompanied by some specimen, will serve as very interesting material for memorizing in the upper primary grades. The special purpose of such lessons as the above is to impress the adaptation of these birds to winter life in the matter of protection and food. It prepares for the spring lessons on birds.

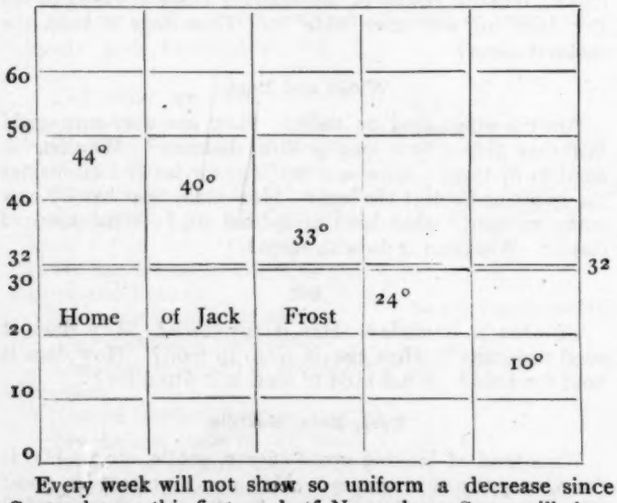
Primary Geography. V.

By ZONIA BABER, Cook Co. Normal School, Englewood, Ill.

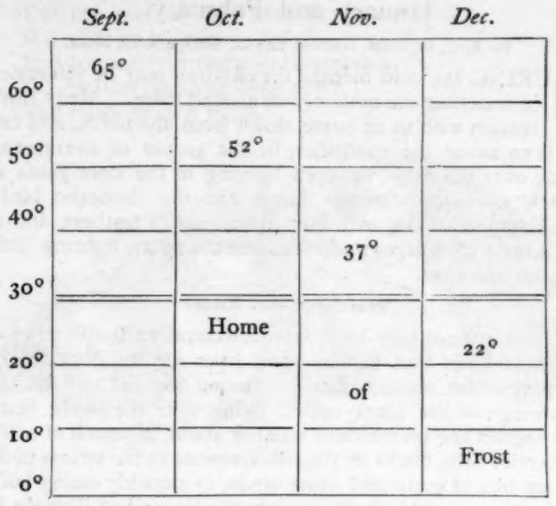
He giveth snow like wool: he scattereth hoar frost like ashes. He casteth forth his ice like morsels; who can stand before his cold. — *Ps. 147 — 16.*

A strange yet beautiful landscape is the result of the great change of temperature; since September we have passed from a tropical to a frigid region. Even the little children can be taught to measure change in the amount of heat by use of the thermometer. To read "forty degrees" means nothing to a child unless there be associated with it his own physical sensation. Many tests are necessrry before he can approximate a certain quantity of heat. Take a cup of water let him put his hand in it, put in the thermometer, he watches the mercury, put the cup of water over the alcohol lamp, notice the mercury rise; put in ice, watch change. After a time he can put his hand into water of different temperature and estimate the amount of heat.

A temperature chart can be put upon the blackboard which will assist him in the appreciation of the change of temperature if properly used. The following plan I have seen used. One inch represents ten degrees:



Every week will not show so uniform a decrease since September as this first week of November. Some will show an increase but the average for the month will indicate the downward movement of the mercury as the following chart shows. This was copied from last year's record but it illustrates the principle:



What is the effect of this loss of heat upon water, plants, animals, soil? The ponds and creeks are stiff with cold; instead of dew there is frost; instead of rain there is snow. We can cause the frost and dew to form at the same time in the school-room, and note conditions.

Bring into the room a cup of cold water, and moisture, or dew, will collect on the outside; put salt into another cup of snow or ice, and frost will form on the outside.

The cold makes the trees look dead, and no flowers can be found. The children went out to look for insects and birds where they found them so numerous in the autumn. The birds are all gone, save sparrows, snowbirds, and an occasional blue-jay or owl. Many cocoons were found, but no live insects. A torpid snake was found under a stone; when brought home and warmed, it began to crawl.

The turtle in the school-room went into his box of sand, to hibernate, in October, and has had nothing to eat since.

The children went into the garden to see what had happened to the soil. They found it almost as hard as stone, and with difficulty broke off a piece to bring into the school-room; it soon thawed in the warm room, and became mellow.

The seeds in the soil which appeared to be dead, soon sprouted, being kept moist and warm. Like the snake, they were only waiting for the heat to awaken their activities.

The children noticed that the ground seemed to bulge up in places; that little particles of soil were perched on ice pinnacles. When it thaws they will observe how mellow the frost has made the soil by pushing it up.

They are watching pieces of sand-stone, lime-stone, and slate, which were soaked in water, and laid on the outside window-sill.

The best time to observe wind action upon soil not held together by vegetation, is when the ground is covered with snow. Just as the wind piles up the snow into drifts, does it pile the sand when exposed to it.

Notice manner of formation of drifts; cause; shape; relation to direction of wind.

Why do drifts not form against trees, houses, etc. Little children would not be expected to give correct answers, but such questions would stimulate closer observation.

Notice difference in drifts on prairie or treeless areas, and areas where trees are numerous.

While children are in the atmosphere of winter, are looking at white, frozen landscapes, they are in a condition to sympathize with the "Children of the Cold." This is an excellent time to give them the stories of the Eskimo. It is easy for them to see that if this weather continued almost all the year that little vegetation could grow; that the country would look like a prairie.

Away to the North there is just such a country, where the sun does not shine for three or four months at a time. Only think of the winter's being one long, long night!

But they can see the moon every clear night, and the

stars, too, are very bright; besides, there is a beautiful light of many colors — red, yellow, and green — which shines from the north across the sky, making their long, dark winter more cheerful.

If we should go out here now in search of food, we could find animals only; there are no fruits or vegetables; so the Eskimo can only find meat for his winter food. Little Eskimo children must go out in the moonlight for their plays and sleigh-rides. When summer comes, what a change! The sun comes up to stay, not going down at night. At midnight it can be seen on the northern horizon like a great ball of fire.

For months it does not again appear, but may be constantly seen in some part of its journey through the east, south, west and north.

It grows warm, the flowers spring up until the ground, which has for months been buried under many feet of snow in places, is carpeted with beautiful flowers and mosses.

Birds come in great numbers; every stream and lake is covered with ducks, geese, plover, etc. Now the Eskimo has his Thanksgiving; he can find as luxuries, berries, edible moss, and numerous birds' eggs. He does not need his snow-house, which melted away when the sun came, for now he is warm enough in his stone hut. The homes, clothing, manner of getting food, cooking, games, etc., should be studied, and in this line may be suggested the following books of reference:

References for the Study of the Eskimo.

"Children of the Cold." Schwatka.
"Seven Little Sisters" and "Each and All."
Congressional Reports; Cruise of the Corwin; Alaska.
"Search for Franklin." Schwatka.
"Voyage of the Vega." Nordenskiold.
"World by the Fireside."
St. Nicholas, 1885.
Wide Awake, April, 1889.

Outline in Geography for January.

	First Grade.	Second Grade.
	Effect of wind on snow; formation of drifts; relation of drifts to trees, to houses, to fences; shape of drifts; relation of shape to direction of wind. Compare effect of wind on snow in prairies with that of timbered regions. With this winter picture have stories of people who have winter the greater part of the year — as, Eskimos. — Their home, food, habits, clothing.	Formation of snow-drifts; relation to obstructions; difference in wind-ward and lee-ward sides of drift. Contour of landscapes composed of drifts. Formation of sand-dunes at lake. Relation to prevailing wind. Condition for formation of dunes. Effect of vegetation on dune movement. Stories of Lapps. Hollanders in relation to dunes. Stilt-walkers of France, Landes-Desert life.
Form.	Model in sand — snow-drifts; in clay — Eskimo house-making; utensils, sleds and boats. Paper-cutting of same.	Model in sand — snow-drifts. sand-dunes; in clay — home of desert people; typical animal of desert.
Color.	Paint winter landscape.	Paint winter landscape.
Drawing.	Snow-drifts. Illustrate Eskimo home; food; habits; dress.	Snow-drifts; Sand-dunes. Illustrate — coasts with dunes; deserts with dunes; homes of desert people.
Number.	Compare average depth of snowfall with deepest drift. Six inches of snowfall equals how many inches of rainfall (melt and compare.) Melt and compare equal bulk of snow with equal bulk of ice. Compare average temperature Dec., Sept. effect. Compare number of clear days of Jan. and Sept., etc.	
Literature.	Norse Mythology. Thor, etc. Æolus and Care of Winds. Poem, "The Fairy Folk," by William Allingham. (See Whittier's "Child Life.")	Hermes. Ulysses and Bag of Wind. Harpies. Poem, "The Wind," by Dempster Sherman.
Music.	"Jack Frost," Songs for little Children. E. Smith. Part I. "The Tree in Winter," " " " " " " " II. "Snow Ball Song," " " " " " " " II. "Little White Feathers," " " " " " " " I. "Earth's Winter Dress," Stories for the Kindergarten. Mildred and Patty Hill.	

Primary Department.

Water. Its Forms and Uses.

By CHARLES B. SCOTT, State Normal School, Oswego, N. Y.

Objects of this Work.

THE objects of this work are four:

1. To *interest* our children in one of the most common things about them, water, and help them to observe and learn how much it does and how it does it.

2. To give them something, based on their own observations, to talk and write about, and thus base their *expression on impression*.

3. To lead them to *watch and think* about what is going on about them.

4. To serve as a basis for future work in geography, to prepare them for the study of the work of water in soil and earth-making, and to help them to better understand the work and use of water in plant life, studied in the spring.

Uses of Water.

Lead the children to think and talk about the uses of water. This may take two or more lessons. Draw out their ideas (do not give them yours) as to the use of water,

a. To man,
b. To other animals,
c. To plants,
d. To the earth (in the form of rain, snow, etc.).

Why Water is so Useful.

a. Show the dissolving power of water by dissolving salt, sugar, snow, etc., in water.

b. Show the cleansing power of water by washing in water something sticky with sugar, or something dirty, such as their slates. (Soap simply aids the water in dissolving.)

c. Show the power that water has of floating things (such as wood or sawdust) or holding them in suspension (as mud) and carrying them along.

d. Bring out, by questioning, the fact that water is useful to man, animals and plants, because it dissolves their food (salt, sugar, tea, coffee for man; lime and soil for plants), and cleanses them outside and inside, and that rain and streams are useful, because, in addition to providing water for animals and plants, they cleanse the earth and carry along dust, mud, sand and stones.

Forms of Water Evaporation and Condensation.

a. Have children dampen their slates and leave on desk. Have some of them dampen their handkerchiefs or pieces of cloth and hang in the school-room (not near the stove or radiator, nor in the sunlight.) Put a little water in a broad

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shallow dish (saucer) on the teacher's desk or in the window, and let it stand several hours. What happens? What has become of the water? Where is it? (Do not tell them.)

Put a measured quantity of water (a pint or quart) in a shallow vessel and measure the amount left each day. How much is left after one day? Two days? Three days?

b. Repeat the same experiments near the stove, radiator, lamp, or other source of heat, and also in the sunlight. What is the result? What becomes of the water? What is the effect of heat in drying things? Of the sunlight?

Measure the water as before, so that children may learn how much more rapidly the water disappears when heated.

c. Boil the water over a stove, oil-stove, alcohol lamp, or other source of heat. (A portable alcohol lamp is very useful for such school-room experiments. A very convenient form, consisting of a brass lamp, about the size and shape of a fruit can, with cover, and a folding iron frame, to support a vessel above the lamp, all packed in a pasteboard box about three inches square and one inch thick, can be obtained for twenty-five or thirty cents from Siegel, Cooper & Co., corner State and Van Buren streets, Chicago.)

At first boil in an open vessel, tin cup or pan, and let the children watch the process. What takes place? What becomes of the water? What is it changed into? What causes the change? Where does the water go?

Boil a measured quantity of water. How long does it take for it to "boil away?" Compare with the time it took the same quantity of water to disappear in the previous experiments. What is the effect of heat on water?

After the children have a clear conception of what evaporation is (and not before) give them the term "evaporate." After they have struggled for some time so express the idea in their own way, and have discovered how difficult it is to do so, they will be glad to get the word "evaporate" or "evaporation," and even the little ones will use it correctly. The word may be connected in their minds with "vapor." The idea should always precede the term expressing that idea.

Boil the water in a tea-kettle, if possible; if not, cover the cup with a funnel, or use a sewing-machine oil-can, so that the "steam" will come through a small opening and be better seen by the children (the more nearly the stove, tea-kettle, etc., in the school-room are like those in the kitchen at home, the more will the children be led to think about what they see at home, and the less will their attention be drawn from the experiment to the apparatus.) What comes from the "spout" of the tea-kettle? Hold your slate in it. What forms on the slate? Very small drops of water. So we call this "water-dust." Can you see this close to the "spout?" (Not if the opening is small in proportion to the amount of water, and the water is boiling vigorously, as in the tea-kettle.) Hold your slate there. What forms on it? Water. Then there is water there that we cannot see. The heat has turned the water into something we cannot see, called "vapor."

Hold a cold slate in the "water-dust." What forms on the slate? Into what does the cold turn the "water-dust?" Hold the cold slate in the vapor, between the "water-dust" and the spout. What forms on the slate? Hold a snow-ball or piece of ice under the vapor, very near the opening. What is it changed into? ("Water-dust.") Why? Into what does heat turn "water-dust?" Why is the heat close to the spout and "water-dust" away from it?

Let some water stand in a warm place in a vessel covered with glass or a saucer. What forms on the under side of the glass? Why?

Breathe on a cold window-pane. What forms? Why? What comes from our mouths when we breathe on a cold day out-of-doors? Why?

Have children study evaporation from side-walks, roofs, etc., out-of-doors.

"Wash-day" at home is the best possible place and time for studying evaporation and condensation. Why do the windows and often the walls and ceiling get so wet? Why does the kitchen become so full of "water-dust" when the outside door is opened? Why do they spread out the clothes to dry? Why do they dry more quickly near the stove? When the sun shines? When the wind blows? Such questions can be multiplied almost indefinitely and interest the children. The writer has seen hundreds of children six and seven years old "think out" for themselves very clear satisfactory answers.

Next month suggestions will be given for the study of fogs, dew, clouds, rain, frost, ice and snow.

Expression.

Below are given several papers by children in first, second and third years, in the schools of St. Paul, Minn., where this outline was followed last year. The papers were not written for publication and are printed just as written by the children.

Steam is next to the spot.
We do not see the steam.
The vapor looks like a cloud.
We call the fine vapor water-dust.
There is always vapor in the air.

SARAH B.
Lafayette School. 1st Grade.

We put cold water in the tea-pot.
We put the tea-pot on an oil-stove.
Soon the water boiled.
Vapor came out of the spout.
The cold slate changed the vapor back to water.

AUGUST P.
Lafayette School. 1st Grade.

The Water.

Jane put some water in the tea-kettle.

Then Jane poked up the fire-sprits, and very soon the water-drops bubbled and the little fire-sprits said that there was water in the tea-kettle, and they put their arms around it.

The water drops beagn to sing and dance, and the little drops at the top wondered what was the matter and they went down to see. The drops at the bottom went up to the top singing, Ring tum, rinks tum, re and just then a little boy came in the room and asked Jane what it was. And Jane said it was the tea-kettle singing.

LAURA COOKE.
Longfellow School. 2nd Grade.

The Water.

One day our teacher Miss Morrow took some water, and put in the basin and then set it on the table for two or three days. And one day Miss Morrow passed it around for the children to look at. And when we looked at it, it had all evaporated, and there were only a few drops left.

It had all dried up and gone into steam. We cannot see the steam, but we can see the water-dust. The water is colorless and tasteless.

The next time Miss Morrow took some water again and put it in the basin and set it on a chair by the register, and evaporated quicker because there was more heat. The last time Miss Morrow took some water again and put it in a kettle, and placed the kettle on a little stove, and evaporated still more quickly, because there was more heat than anywhere else.

EDITH BAMBAUER,
Ramsey School. 3rd Grade.

Intermediate Department.

Air and Its Uses.

Why Air is Everywhere.

(Continued from December Number.)

a. Cut off about a half inch of a large tallow candle (a Christmas taper is too small), trim it flat at the lower end, place on a flat surface, light and place over it a long cylindrical lamp chimney (such as the chimney used on "students' lamps.") It may be well to dip the lower end of the chimney into water before placing it over the candle to make it more nearly air-tight. What is the result? (The candle will go out because it cannot get air.) Repeat the experiment two or three times, so that all the pupils can see it clearly. Do not ask the children why it goes out and do not tell them. Light the candle and hold the chimney over it, leaving a space below the lower end of the chimney. Does the candle burn now? Lower the chimney slowly. What is the result? Raise it slowly. Result? Let the chimney down until it rests on the board. Result? Repeat two or three times, or, better, have the pupils repeat the experiments for you. Light the candle again and set a chimney over it, putting a match under one side of the chimney to raise it slightly. What is the result? In this

position, with the candle lighted, have one or two of the pupils hold a lighted match over the chimney. Repeat until they discover the upward current. (Do not tell them what makes it.) Have them hold a lighted match near the opening below the chimney. Repeat until the inward current there is discovered.

Now ask (do not tell them) why the candle goes out when the chimney rests on the board and why it burns when the chimney is raised a little If only the quick or more intelligent pupils think they know, tell the children you want them to think about it until tomorrow. Let them work it out. Do not tell them and do not let the bright pupils do all the thinking and telling.

At the next lesson review by questioning the work of the previous lesson. Repeat any of the experiments if the pupils' ideas are not clear.

b. Cut a hole about a quarter of an inch across in a board (a piece of chalk box, if it is not warped) support its ends (by books) three or four inches above the desk or table, place a lighted candle near the hole and set the chimney (first dipping its lower end in water to make it more nearly air-tight) over the hole and the candle. Put your finger (or better have a pupil put his finger) under the board and gradually cover the hole. Result? Remove finger. Result? Repeat. Test out-going and in-going currents as before. Ask why. (Do not tell them.)

Probably the fact that air is necessary for burning and that it is drawn in at one place and the heated air driven out at another place, is as much of the "why" as the children in the lower intermediate grades can understand.

The writer has heard this explained to the little children in two ways. One teacher told the little ones that the air fairies rushed in at the bottom to get to the fire and get warm; as soon as they were warm they flew out at the top to make room for others. Another teacher said that the air fairies kept pushing in at the bottom so rapidly that they crowded the others away and pushed them out at the top. Which is the better way of putting it? Why?

It may be well with the older pupils to emphasize the idea that when anything burns in air, the air is changed so that other things will not burn in it so well or will not burn at all. Hold a lighted match or splinter of wood just over the lamp chimney in which the candle is burning. It will soon go out. Push a lighted match or splinter into a narrow necked bottle. It will soon go out. The second splinter will go out almost instantly. This shows that the air in the bottle or chimney has been changed, as the match will not burn in it. The older pupils can be told that air contains a gas called oxygen, and that burnable things (wood, coal, candles, oil, cloth, etc.,) contain a solid black substance called carbon. It is this which makes such things turn black when they begin to burn. Charcoal, lamp-black, soot, smoke, all consist of this carbon. This carbon unites with and thus uses up the oxygen of the air, the two forming a gas (carbon dioxide, $C O_2$, sometimes incorrecly called carbonic acid) which passes off into the air. When there is not enough air or oxygen to burn, that is, to unite with all the carbon, some of it ls left as charcoal and some goes into the air in very small pieces, making smoke, soot, etc. Repeat some of the previous experiments and notice the formation of smoke as the candle, match or splinter begins to go out, that is, as the oxygen in the air begins to be used up.

A Study of Lamps.

c. Bring a lamp to school and have the pupils study the arrangement of the parts and the reasons for such arrangement. Show them, by means of a rag or sponge or lamp wick with its lower end dipped in water, how the oil is drawn up to the burner.

Light the lamp. Where and how does the air get in? Cover the air openings. What is the result? Why? Cover, or partly cover, the top of the chimney. Result? Why?

With the older children the study of the lamp may be carried further. Why does the lamp smoke when the air is partly shut off or shut in? Turn up the lamp. Why does it smoke now? (It cannot get enough air or oxygen to burn or unite with all the carbon.) Take off the chimney. Why (in lamps with large flame) does it smoke now? What is the use of the chimney? (To make the current of air pass near or through the flame.)

Have the pupils study at home the different kinds of lamps and the different arrangements for giving the flame air or oxygen.

A Miniature Stove.

d. A stove, with draft, chimney, fire, etc., may be imitated with a strong, well-made pasteboard box, about two by four by one inches. Cut a circular hole in the bottom, about an inch in diameter and one about a quarter of an inch wide in one end of the box. Wet the box (to make it tight and keep it from burning) place it bottom upward on a flat surface with the circular opening over a very short lighted candle, and place the chimney, wetting its lower end to make it tighter, over the circular opening. We then have a miniature stove.

By closing or opening, more or less, the "draft" in the end of the box or at the top of the chimney the "fire" can be made to burn slowly or rapidly or put out. Let the children study it and work out for themselves the "why."

Have the children study the stoves at home. Where does the air get into the stove? Test and prove it. Where does the warm air go out? What is the use of the draft? Of the check draft? Of the damper? How does the fire burn when the stove door is left open? Why?

Other Uses of Air.

e. If a piece of sheet rubber is tied tightly over the large end of the lamp chimney and air sucked out of the chimney the pressure of the air can be shown. With a little ingenuity a syringe and a pump can be made with the chimney, showing the working of these instruments.

The elasticity of the air can be studied leading to an explanation of pneumatic tires, air cushions, etc.

The work can be connected with that in physiology by studying the necessity of air or oxygen for the support of life and the process of breathing.

Expression.

Special care will be necessary to make the work of the pupils individual. I insist that all must see and understand, that all must think and that all must tell, each in his own way.

In describing it will be found helpful to have pupils tell; first, what they did; second, what they saw; third, what they thought. First, experiment; second, observation; third, inference. If the accounts are written in the first person, what "I" or "we" did and saw and thought, they are apt to be more individual.

Drawings, however crude, will be very helpful, and will aid in developing individuality. Have pupils draw (always from nature) the apparatus used and lamps, stoves, etc., studied, indicating by arrows the direction of the currents of air.

Below are given several papers from the schools of St. Paul, where an outline similar to this was followed last winter.

About Air.

Charlie has a lamp-chimney.
Rose has a piece of wet paper.
Miss Bartelheim put the wet paper tightly on the top of the lamp-chimney.
Rose has a glass full of water.
Charlie put the lamp-chimney into the jar.
No water came into the chimney.
No water came into the chimney because the air could not get out.
The air and water could not be in the chimney at the same time.

MATTIE BURKE.
Hawthorne School. 3rd Grade.

More About Air.

Miss Bartelheim put a wet paper tightly around the lamp-chimney.
She put some water into a glass jar.
She put the chimney into the glass jar.
No water went into the chimney, because it was full of air, so no water came out.
Arthur put a tiny hole in the paper.
This time a little water went up into the chimney, because some of the air got out. Frank put his finger over the hole. Then no water went up, because Frank put his finger over the tiny hole.

HARRY MADISON.
Hawthorne School. 3rd Grade.

Ways I Have Found.

By H. Avis Perdue, Chicago.

Every first grade teacher will agree with me when I say that a certain amount of drill in recognizing and naming the words learned is an absolute necessity, and at the same time is not a particularly entertaining exercise.

I have sometimes thought when my little beginners have been toiling down one column of words and up another that they might well exclaim with the melancholy Dane "Words, words, words."

So I have bethought me of various little devices for making this drill an entertainment, a pleasure instead of a bore. And I thought that perhaps other first grade teachers might care to hear of a couple of these simple little devices that I have found useful.

I saw a charming little scheme in the October number of Primary Education. The teacher who wrote of it used the story of Jack and the Beanstalk.

The beanstalk was made to bear words by means of which the little ones were to climb up, up to the giant's house at the top. I liked this little plan very much but it was too elaborate for my unskilled pencil and so I evolved from my inner consciousness another little device quite simple but which was received with enthusiastic delight by my little ones. Up near the top of the blackboard I drew a little house with bright yellow chalk, this I called the Golden House. It was embowered in roses drawn with green and red chalk and made to resemble "sure enough roses" by the ever ready imagination of little children. "The green grass grew all round" this little Golden House and blue birds (made with two short curved lines) gave life to the picture.

I drew steps leading up to the Golden House and wrote a word on each step. Each and every child in the class was eager to climb up the steps to the beautiful Golden House,and very proud and happy were they who got safely to the top without missing or tripping. Really it made a very enjoyable exercise for both teacher and class.

Then again I sometimes make a tall tree which bears strange fruit, namely, the words I wish to drill the class on, hanging on its branches. They think it is "lots of fun" to pick out all the queer things growing on this very tree and the words so drilled upon are not easily forgotten. Try it and see.

Questions for Home Study.

By Sarah E. Towne.

1. Name four uses of the bicycle.
2. Why do we find frameworks about the harbor, lakes and high hills with flags attached?
3. Can you read the weather signals?
4. Can you read the thermometer, and tell what is used inside, and why?
5. From what lake or pond, if you live in the city, do you get your drinking-water?
6. Name different rivers about your town or city.
7. If a seaport, name islands in harbor, kinds of vessels, boats etc.
8. Name different kinds of lights used in light-houses.
9. Name manufactures of your own city.
10. What is a mill-dam? what s a breakwater?
11. Who is the present ruler of Russia? Tell all you know of him.
12. How are bricks made?
13. Name different kinds of trees on your street. Why are trees grafted?
14. Why are dogs taxed, and how is part of the money spent?
15. Name a woman explorer. Whose little girl was born in the Arctic regions?
16. How is rain measured?
17. Do you salute the flag, and why?
18. Why are frogs put into ponds?
19. If you have electric lights tell which is silvery and which is golden.
20. Do you collect specimens for your school-room, why?

Because Right is Right.

Self-reverence, self-knowledge, self-control,
These three alone lead life to sovereign power.
But not for power (power of herself
Would come uncalled for), but to live by law,
Acting the law we live by without fear;
And, because right is right, to follow right,
Were wisdom in the scorn of consequence.

— *Tennyson.*

The Sistine Madonna

(Our supplementary picture last month was but briefly alluded to and errors in statement were made. We are happy to correct the misstatements and give a fuller description of the famous picture, which will be framed and hung upon so many school-room walls that teachers must be glad to learn more about it to tell the little children. We are indebted to Miss Evelyn S. Foster for the following account, taken from her series of "Famous Madonnas," which appeared in that choice little publication, *Every Other Sunday*.— Ed.)

Raphael's "Sistine Madonna" is always mentioned among the greatest pictures of the world and some place it at the head of the list. The Mother with the beautiful Christ Child in her arms stands upon the clouds. On one side is Saint Barbara; on the other, Saint Sixtus. At her feet are two little cherubs with uplifted eyes. The legends regarding these lovely cherubs will probably interest my young readers more than those relating to Saint Sixtus or Saint Barbara. The legends disagree; each can choose for himself which to accept as the origin of the beautiful little faces.

According to one legend, when the great artist was painting this picture two pretty boys watched him as he worked, in the attitudes of the cherubs, and so the thought came to him to place them at the feet of the Madonna and Christ Child.

Another legend tells us that when Raphael was lying in bed one night with his thoughts dwelling on his work, he fell asleep, and in a dream seemed to see these cherubs leaning on the footboard before him. When he awoke, this lovely dream haunted him, and at last became a part of his great painting.

Another legend shows us the picture finished without the cherubs, and hung up for exhibition with a railing before it to protect it from injury. It tells us that two pretty boys got behind this railing and leaned upon it; that Raphael came in, and seeing them, afterward added them to his picture, as adoring cherubs. But this painting was designed by the artist for a standard or banner to be carried in procession and was used by the monks as an altar-piece: so its history does not harmonize very well with that legend.

The story I like best to associate with the cherub is this: that when Raphael was traveling over the country longing for some models to represent the beautiful thoughts he had in his mind he saw a lovely mother with sweet twin boys looking up into her face with the rapt expression of the cherubs, while she told them the story of the Christ Child.

The artist won the love and confidence of these boys, invited them to his studio, and they gladly became models for his famous picture.

Several reasons are given for the name of the painting,—"Sistine Madonna." Some say it comes from the six figures. Others say it is so called because it was painted for the convent of Saint Sixtus at Piacenza. Some think the name refers to one of the figures, Saint Sixtus.

This painting is now one of the treasures of the Art Gallery at Dresden, having been bought by Augustus III., Elector of Saxony, of the monks of Placenza for nearly thirty thousand dollars. Its value has recently been estimated at over seven hundred thousand dollars.

The little tower behind Saint Barbara refers to her imprisonment, the punishment she received for her steadfastness to the Christian religion.

The halo about the Madonna and the little Child come from many angel faces. The curtains drawn aside suggest a vision.

An admirer of this painting declares with enthusiasm that one might study it every day for a year, and on the last day of the year find in it a new beauty and a new joy.

Janus.

In the old days when people believed that high up on the mountain top was a beautiful city in which Jupiter dwelt and watched over all the world, they also believed that the great golden gate was guarded by a god named Janus.

And this god Janus had two faces — one that looked down with kind watchfulness upon the people below; and another that looked back into the golden city that no harm might come to it.

Now whenever danger threatened the helpless people below, it was Janus that called to Jupiter to warn him that his earth children needed his protection.

And so the earth children came to love the watchful Janus; they made beautiful bronze medals of his head; they built temples in his honor, and placed great bronze figures of him upon their gateways; and thus he guarded their cities even as he guarded the gates of heaven.

And by-and-by as the people grew wiser, and wished to divide the days of the year so that they might reckon by it, they named the first month January, and dedicated our New Year's day to their good friend Janus.

Can you tell why? M.

What Nelly's Pony Thought.

"Stamp! stamp! stamp! I've been standing here a whole hour," said the pretty dappled pony that Nelly drove. "I wonder what my little lady is buying. A new dress very likely. Or a new hat."

"Stamp! stamp! stamp! I've a mind to run away and have a scamper in the open fields. She couldn't catch me. But after all, Nelly is very good to me, and it would be mean to run away. I'll stand as still as I can," said the pony to himself.

Just then Nelly came out from the store. And what do you think? She had a piece of sugar in her hand for the pony.

"What a bad pony I was to even think of such a thing," thought he. "It would be so mean to treat one who had been kind to me, like that."

And if it had not been for his bridle, I am sure the pony would have hung his shaggy little head all the way home for shame.

The Snow-ball.

Once something very strange happened because of a snow-ball. A man was walking down a mountain and amusing himself by making snow-balls. At last he made a large one and sent it rolling down the mountain-side.

Now though it was no larger at first than he could hold in his two hands, as it rolled along it kept growing bigger. All the snow it met clung to it; and at last the great rolling bal started a snow-slide that went crashing down the mountain, and buried the man's own house.

I am not sure that this is a true story, but doesn't it remind you of something that might be true?

A Picture.

(An Imagination Story.)

I should like to tell you about a picture that I like very much, and that I hope you may see for yourself sometime.

The woman in the picture is not young; indeed, she is old; as old as your grandma. But I am afraid there are no children to make her happy, for she sits all alone at the table taking her tea.

It is quite clear that she is not rich, for her black dress and cap are very plain, and she has only a dry piece of bread to eat, as she drinks her tea. Her room is high up, near the sky, and you see roofs and chimneys through the window.

The window brings us to the best part of the story; for it is open, and a dear little bird has flown in, and is eating crumbs from the table.

So after all, the dear old lady has company to tea, and if you could see the loving eyes with which she watches the bird, and the smile on her kind face, you would love her just as well as I do.

C.

Those Funny Mittens.

Jamie had a bright fifty-cent piece. In the store window was a fuzzy, wooly pair of mittens. "Eider-down," the store-keeper called them, and indeed they were warmer than any knitted mittens could be. Beside the mittens was a little iron engine that would wind up and go. Jamie didn't need the mittens and he *did* want the engine.

"Aren't your hands ever cold?" Jamie had asked of the little ragged boy that morning as he had watched him shovelling in the coal, and enjoying the noise as it went rattling down through the hole in the side-walk.

"Sometimes," the little coal-boy had answered, tucking his hands into his pockets to warm them up a bit.

And Jamie had noticed that they were red and cracked and chapped, and some way when Jamie looked at those mittens in the store window he thought of the coal-boy. If only it was n't for the engine!

It grew dark very early that afternoon, and Jamie fell asleep in front of the fire-place while waiting for dinner-time.

In his sleep, Jamie laughed once, twice, three times. "Well, what is it, Jamie?" his mother asked, never once thinking he was asleep.

Jamie jumped up and rubbed his eyes. "I've been dreaming sure as you live! Those funny, fuzzy mittens! They had faces on them! And they laughed at me!"

Then Jamie told his mother about the mittens and the coal-boy.

The next day there was a little white package with two of the fuzziest little mittens in it. It made Jamie laugh even to look at it — for he could see those faces in it.

And the package said on the outside — and if the writing did run up hill a bit it was no great matter, —

"A Happy New Year. To Tommy Brown the Cole Boy."

M.

"High and low
The winter winds blow!
They fill the hollows with drifts of snow,
And sweep on the hills a pathway clear;
They hurry the children along to school,
And whistle a song for the happy New Year."

A Letter to the New Year.

(Child holds sheet of paper and reads.)

You dear good blessed New Year, I am writing you a letter,
To ask if you won't try to fix up things some better.
The best of us will make mistakes — I thought perhaps if I
Should tell you how you might improve, you would be glad to try.

Past years have quite forgotten that little girls and boys
Are fond of dolls, and tops, and sleds, and balls, and other toys;
Then won't you — I wonder, now! — just take it in your head
To have such things all growing in a lovely garden bed?

And then I should plant always (if only it were me)
Some vines with great big pickles, and a little cookie tree;
And trees, besides, with gum-drops and caramels and things;
And lemonade should bubble up in all the little springs.

I'd like to have the coasting and the skating in July,
When old Jack Frost would never get a single chance to try
To nip our cheeks and noses; and the Christmas trees should stand
By dozens, loaded! — in the woods! — now, wouldn't that be grand?

But, as I cannot do it, will you think of what I say?
And please, New Year, *do* begin and alter things to-day.
And one thing more — on Saturdays don't send us any rain.
Good-bye. If I should think of something else, I'll write to you again.

— *Sel.*

Baby's Arithmetic.

Ten little fingers and ten little toes,
Two rosy lips and a cunning "pug nose;"
Three little dimples that frolic and spin,
Two in the cheeks and one in the chin;
Two little shoulders and two little ears,
Two big blue eyes with — sometimes tears;
One little baby-girl very tall grows,
How many hugs does she get, do you s'pose?

— *J. M. L.*

A Kindergarten Song.

See our happy faces in a row, row, row;
See our curly heads a-nodding so, so, so;
All our nimble fingers going snap, snap, snap;
Every pair of hands going clap, clap, clap;
Hear our merry voices, how they ring, ring, ring;
Hear our bells ting-a-ling, ling, ling, ling!

Not a single book have we, with words, words, words;
But we'll prick you pictures, all of birds, birds, birds;
We are little artists, with our clay, clay, clay;
We can model kittens full of play, play, play;
We have such a jolly time, oh, oh, oh!
How we love our kindergarten — ho, ho, ho!

— *Selected.*

Butterfly Babies.

"Rock-a-bye, babies, all Winter long,
Wrapped in cradles of silk soft and strong,
Waiting for sunlight, warm and bright,
To call these little children to light.

Hush-a-bye, hush-a-bye, wrapped soft and strong,
Hush-a-bye, hush-a-bye, all Winter long;
Sleep, little babies, sleep until Spring,
Then spread out each shining wing."

A Little House-Maid,

(Recitation for a little girl in costume.)

I am a little housemaid;
This sweeping-cap I wear
Because I must, for fear the dust
Would settle in my hair.

I've put on Grandma's glasses;
Those, and the kerchief, too,
Are to make me look like our old cook,—
I wonder if I do?

This bunch of keys is auntie's,
They jingle as I walk;
But I must go, for maids, I know,
Should not stop long to talk.

— *Emma C. Dowd.*

Manual of Arms.

(This has appeared before in PRIMARY EDUCATION and is reprinted by request.)

(*A concert exercise for the whole school, standing.*)

(This is a most delightful and inspiring exercise if the commands are given by teacher with military sharpness and inflection and performed with military precision by the children. *A great deal of drill is needed.* The children will move promptly on the word ARMS.)

(*Teacher's command.*)		(*Children respond.*)
1. Fold	— *Arms!* —	in front.
2. Extend	— *Arms!* —	at side, palms down.
3. Support	— *Arms!* —	hands clasped back of head.
4. Advance	— *Arms!* —	extend in front, palms up.
5. Reverse	— *Arms!* —	folded back.
6. Raise	— *Arms!* —	vertical overhead.
7. Carry	— *Arms!* —	cross hands on chest.
8. Shoulder	— *Arms!* —	upper arm horizontal at side, fingers on shoulders.
9. Cross	— *Arms!* —	forearms crossed over head.
10. Present	— *Arms!* —	crossed arms in front, shoulders high.
11. Rest	— *Arms!* —	hands on hips.
12. Secure	— *Arms!* —	clasp hands in front.

A Riddle for the New Year.

"A father has just twice six sons,
Not one e'er sees his brother,
Of thirty daughters to each son
Not one e'er sees the other.
Each daughter's life twice twelve doth count;
Of strange facts here's another:
One half their lives they're white as light,
And black as night the other." — *Sel.*

"Cross words are like ugly weeds,
Pleasant words are like fair flowers;
Let us sow sweet thoughts for seeds,
In these garden hearts of ours."

Little January

"I'm little January, perhaps you do not know
How far I've come to see you, across the fields of snow.
Perhaps you were n't expecting I'd be so very small,
Perhaps you're almost wishing I had not come at all."

Snow.

(Recitation for a boy.)

Ah! do you remember, now *do* you remember?
I think it was early in last November,
When down came that magnificent snow,
Expressly to please the boys, you know,
'Twas falling all night,
So softly and light
That when morning bright
Showed white — white — white,
We never had guessed, and you never saw
A jollier set of boys — hurrah!

And best of all, it was Saturday!
It surely must have been planned that way
By old Boreas, benevolent soul!
Who made up his mind that, upon the whole,
The boys who stay
In school all day
Have a right to say
There's a time for play;
So down he sent with a single fling
The shining robe of the Winter King.

We built a fort; did you ever try
To build one solid, and build it high?
The storming party came rushing on,
And thought they soon had victory won;
But hand to hand
Had you seen us stand
At the stern command,
You'd have called it grand,
Struggle and tussle and tug and clinch;
Surrender? Never a single inch.

And down the hill as the merry load,
With eyes that glistened and cheeks that glowed,
Dashed and hurried and whirled and spun,
Running over with frolic and fun,
O'er the gleaming snow
With a shout — "Ho, ho —
Here we go, we go" —
Till the moon grew low.
Ah! could such hours last forever,
And rollicking winter leave us — never!

— *Selected.*

A Foreigner.

"If *you* should go a-travelling to Italy or Spain,
Do you think you would be able to talk so *very* plain?
And that is why the baby can't make you understand,
They talk a different language from ours in Babyland."

What is that Noise?

"Now, what is that noise?" said the glad New Year.
Now, what is that singular sound I hear?
As if all the paper in all the world
Were rattled and shaken and twisted and twirled"

"Oh! that," said the jolly old earth, "is the noise
Of all my children, both girls and boys,
A-turning over their leaves so new,
And all to do honor, New Year, to you."

Frost Pictures.

This morning, when all of the rest had gone down,
I stood by the window to see
The beautiful pictures, which there in the night,
Jack Frost had been making for me,

There were mountains, and windmills, and bridges, and boats;
Some queer-looking houses and trees;
A hammock that swung by itself in the air,
And a giant cut off at the knees.

Then there was a steeple so crooked and high,
I was thinking it surely must fall
When right down below it I happened to spy
The loveliest thing of them all —
The cutest and cunningest dear little girl!
I looked at her hard as I could,
And she stood there as dainty — and looked back at me —
In a little white ulster and hood.

"Good-morning!" I whispered, for all in a flash
I knew 'twas Jack Frost's little sister.
I was so glad to have her come visiting me
I reached up quite softly and kissed her.

Then — can you believe it? — the darling was gone!
Killed dead in that one little minute.
I never once dreamed that a kiss would do that
How could there be any harm in it?

But I am so sorry! For though I have looked
Fifty times at that window since then,
Half hoping to see her once more, yet I know
She never can come back again.

— *Carrie W. Bronson.*

Drawing from the object.

A Bright New Year.

The grand new year!
"A year to be glad in, not to be bad in;
A year to live in, to gain and give in;
A year for trying, and not for sighing;
A year for striving and hearty thriving;
A bright new year. Oh! hold it dear,
For God, who sendeth, He only lendeth."

Politeness.

"If a lady in the street,
Or my teacher I should meet,
From my head my cap I take,
And a bow like this I make.
Now I fold my arms up so,
To my seat I softly go."

"Oh, I am the little New Year; ho! ho!
Here I come tripping it over the snow,
Shaking my bells with a merry din;
So open your door and let me in."

Inconveniences.

It's funny I never can find
A pen of just the proper kind;
One which makes the letters well,
And knows correctly how to spell;
Which just exactly fits my hand,
And writes things folks can understand;
Not stupid scrawls, which make one think
Some careless child has spilled the ink.

— *Thomas Tapper.*

(In this department teachers and editor will meet together for a social talk and exchange of opinions, experiences and suggestions. All that teachers would say of their work, if they were with a congenial company of other teachers will be in place here. Questions and letters to the editor will here receive attention and be treated in the best way to bring the greatest good to the greatest number.)

To Contributors.

Please acknowledge checks.

Lady-like Manners.

Mrs. Alice Freeman Palmer, the well-known ex-president of Wellesley College, won golden opinions from men and maidens in a recent talk given before the Massachusetts State Teachers' Association. The necessity for culture, good breeding, lady-like ways, and gracious deportment in the school-room as well as out, was her theme. She was receiving letters from school officials, asking for teachers with these qualifications, first of all — after that what they could. There was a world of truth in all that Mrs. Palmer said. The day has gone by when a high percentage in examination results will atone for brusqueness in a teacher. Manners should be demanded before mental arithmetic, and graciousness before grammar.

"Grosselin Methode Phonomenique."

Notice the paragraph in the letter from Paris on page 14 of this number of PRIMARY EDUCATION, beginning with the above heading. Will some ingenious teacher make an attempt with this *Methode*, and give us the benefit of it. It sounds fascinating, and we believe there are American teachers who could "work up" something original and unique from the bare suggestion given by Miss Bacon. *How the children would like it!* Not as a regular thing, of course, but for variety.

Hand-bells?

Any hand-bells ringing in primary schools this year? *Don't!*

Song Books.

It will be noticed that Miss Baber in her Primary Geography serial this year (in this paper) closes almost every number by giving songs from Eleanor Smith's Song Books. Read the notice of them on the Book page this month.

The Crocker Number Wheel.

This is a device to assist teachers. The maker of it says: The Number Wheel relieves the teacher from tiresome blackboard work; it saves her time; it saves her voice; it saves her strength; it makes the drudgery of drill, delight. The teacher does not make a sign nor speak a word, but the mysterious work of mind growth goes on as the wheel quietly revolves. It is an impressive illustration of that "silence which is golden!"

We do not vouch for it; we only tell the tale as it was told to us. Before the teachers conclude that this is a means of grace to be desired at once, let them read on that the price is — $5.00! It is endorsed and used by many of the most prominent educators in New England. Send for circular to Crocker Manufacturing Co., Boston.

Pleasant Words.

Two personal letters have been received from Minnesota and Colorado bearing similar messages concerning the presence of PRIMARY EDUCATION in the school-rooms.

"My children *do* see the paper (referring to the suggestion on editorial page of December number), and always look forward to it as I do. They know your name, and they love the paper — and Boston, because it is near John G. Whittier's home."

"Every number of PRIMARY EDUCATION, as it comes, brings a ray of sunshine to the children and a stock of inspiration to me. The little children look forward with eagerness to its coming, because they enjoy the work done by children of other schools. I have told them your name, and that you love little children. They have learned to ask regularly, 'Will Mrs. Kellogg's paper come this week?' One would think my babies imagined you published the paper for them alone."

It is not easy to tell of the joy these letters bring. They come like pure sunlight into the many gray days of an editor's life. Sending out a monthly paper to the primary teachers of America is like shooting arrows into the air. Will they fall to the earth or will they hit the mark?

Blessings on these little folks, for whom, after all, this paper is made. Whether they work and wait for their future near the "Golden Gate" or beside the "Father of Waters"; whether in the little school-house at the corner or in the decorated school-rooms of modern date;—my heart goes out to them ever, and their welcome is the sweetest praise that can be bestowed.

Blackboard Readings.

Will the teachers who make any use of the Blackboard Readings given in this paper from month to month, tell us how they use them and what the children think of them? Will teachers also suggest any way in which these Readings can be made more helpful? Is it not tedious work for the teacher to write it all out on the blackboard? Can any better way be suggested? These letters may be personal and not intended for publication, if preferred. The "sense of the meeting" is desired upon this matter.

"Wild Flowers of America."

This is the name of a new serial work published weekly by G. H. Buck & Co., 203 Broadway, New York, in folio form, 12 x 8½ inches. First volume appeared May 15, 1894. The publishers say:

"The motive of the work is to present the wild flowers of America as they are, as we see them, as we ought to know them, and as we ought to remember them, preserving with the strictest truth the essential characteristics of each specimen; in short, to give the flowers so plainly that any nursery child will know the flower by the picture and the picture by the flower. Each part of this work will contain not less than sixteen colored plates." Interesting chapters are given about the flowers represented. The flowers given are from every state in the Union. Price, $30.00 a year. Teachers will do well to ask for a specimen copy for examination.

Our Supplementary Picture.

We take especial pride in our accompanying picture this month. Its quality is superior, as everybody will see at a glance, and there is a story — yes, half a dozen of them — eager to be told in the faces of the children. The little scene is evidently a delineation of the distinctive qualities of this motley collection of animals by the young naturalist who is eager to give "the points. Don't attempt to exhaust this picture at one time, teachers; there is suggestive material enough for the entire month, if skilfully economized. It will, no doubt, find a permanent place upon school-room walls. A simple farme will not cost much.

The North Wind and the Snow Princess.

(Arranged by MARA L. PRATT.)

The days are growing short. The trees and fields are brown and bare. No cheery song is heard in the forest save the chirp of the merry little chickadee.

Now is the time to look for the gruff, old North Wind, who roars and growls and howls across the plains, scattering the brown, dry leaves and bending even the sturdy oaks beneath his power.

A testy cross old fellow this North Wind seems to be, as he goes shrieking around the corners and up and down our chimneys; but after all he is not so cruel as he seems.

Did you ever watch the beautiful cloud-horses that he drives across the sky; and the shining cloud-chariot in which he sits? The little stars laugh down at him; and the louder he roars, the happier their sparkling eyes shine out.

"Boo-oo-oo!" he cries; but his cold breath lays a beautiful shining cover over lakes and rivers and ponds and the happy waters go sparkling along almost as happy as if the sun shone down upon them.

But best of all he brings the little Snow Princess with him. And such a beautiful, little Princess she is!

Her robes are snowy white; her eyes are sparkling in the sunlight, and she floats down from her home above and touches the brown leaves and shrubs, the bare rocks and fields with her soft and gentle hand.

Often the little Princess comes in the still, gray morning when all the world is asleep; sometimes she comes when the darkness falls; and then she works all night long to make the earth beautiful for the Sun to shine upon.

She floats over the fields and across the lakes; she dances along the hedgerows; she reaches up and kisses the tree-tops; she bends down and softly touches the tiny grasses and little shrubs.

She strews her shining crystals up and down the forest paths, and all along the roads; she loads the branches with precious jewels; she covers the housetops and fences.

But best of all she covers the little, sleeping flowers with her soft, warm blanket and whispers a great secret in their ears — a secret that only she and they can understand.

And she tells them of another beautiful Princess — the Rain Fairy she is called — that shall come by and by to wake them up, when they have finished their long sleep.

Then when the flowers and the trees are rested, and the little plant babies in their cradles begin to long to reach forth their tiny hands, the old North Wind takes the little Snow Princess up in his big, strong arms, and away they fly to the Land of Frost.

There they dwell in a towering iceberg palace whose colors are like those of the rainbow and whose towers are like the mountain tops.

But before they hurried away the old North Wind, whom some people think loves only to destroy the beauty of the autumn, called to the soft South Wind and to the little Rain Fairy who comes always with the soft South Wind.

"The beautiful, tall trees are ready for you! And the tiny flowers are waiting for you!" the North Wind called, and the soft South Wind answered, "I am coming! I am coming!"

And when the North Wind heard the soft whisper, he roared with joy and drove his cloud-steed across the sky with a speed that made the sun himself look with wonder upon the flying chariot.

The little Snow Princess danced with joy. "The flowers are waking! the flowers are waking!" she cried; and the beautiful colors in her robe grew brighter and brighter.

Then she shook down millions upon millions of tiny snowflakes and covered the earth anew; she heaped them up as high as the fences; she loaded the trees till they could hardly hold themselves erect.

Some of the earth children grumbled and said, "O dear! another snow-storm!" But the Snow Princess knew, and the flowers knew, and the tree roots knew that this last snow-storm was the Snow Princess' very best gift of all the winter.

CHARLES SCRIBNER'S SONS, NEW YORK CITY.

COSTUME OF COLONIAL TIMES. By Alice Morse Earle.

The first thought in opening this book is of the vast amount of work involved in the compilation of this glossary of old time customs. But the author assures us that it has not been tedious, for the "charm in old letters, wills, inventories of estates, court records and eighteenth century newspapers" has repaid the effort, and preserved it from monotony. This work is designed for the use of artists and all who would imitate the dress of old colonial days in plays and entertainments of all kinds; —to such it must prove a valuable reference book. If one supposes that dress in the "first families" in the days of Washington was a matter of close economy, it will be a revelation to read the order sent to England in 1759, by the Father of his country for the personal wardrobe of himself and wife.

HOUGHTON & MIFFLIN, BOSTON.

IN SUNSHINE LAND. By Edith M. Thomas, with illustrations by Katharine Pyle.

When Miss Thomas brings her rich fancy into the kingdom of childhood, it is as natural to hear birds, flowers and children talk together as for all life to be bright and all nature happy "in sunshine land."

Of the seventy-five little poems in this beautiful book not one can be mentioned as simply "verses." A poetic imagination has not only full play in every selection, but it finds expression in dainty language and happy phrase, that lifts the book far above the mere rhymes and jingles that are deluging the little children of to-day in the multitude of books made for their especial pleasure. The thoughtful mother and discriminating teacher of little children will find a world of beauty in these "Sunshine" pages, sparkling with nature-life, and full of choice illustrations, whereby to train, cultivate and enrich the vivid imaginations of childhood. To memorize but a few of these fascinating little nature poems in early school days will bear fruit in after years in opening the eyes to hidden beauty and the heart to finer teachings than usually belong to work-a-day humanity.

FREDERICK A. STOKES CO, NEW YORK.

A TREASURY OF STORIES, JINGLES AND RHYMES. With one hundred and forty vignette illustrations in half tone after MAUD HUMPHREY.

Short stories, fairy tales, Mother Goose jingles: verses by Edith M. Thomas, Elizabeth S. Tucker, and Helen Gray Cone.

To say that this book is generously illustrated is to give no conception of its rare beauty. There may be technical ways of expressing in words the wonder of these pictures, but to us that are not "up" in techniqne, there is no language to do them one-half justice; so soft are they in finish, so ideal, and yet so life-like!

The possession of it would put any child into the seventh heaven of delight. So great is the variety of contents and so vivid and truthful are the illustrations that this "treasury" cannot fail to be a source of constant delight in every season, and in all conditions of child-life. The fairy tales are adapted to the child's desire for short stories, often told, and the vocabulary is simplified that no little head shall be mystified with long words or ambiguous phrases. Every phase and well-nigh every pose of childhood is represented in the soft, satiny illustrations, and the hearts of "grown-up" people must soften and grow young again under the influence of the bewitching little faces, under big hats, drooping hats, and no hats at all. Nobody needs the influence of these lovely books for and about children more than the teachers of little children in the public schools. They need to preserve an idealization of child life and nothing is surer to create or restore this, than to give one's self up to the charms of this delightful little book. There is not one chord of love in the mother or teacher heart that will not be touched by these children; for to turn these pages cannot help but make all children in the world about us nearer and dearer.

"THE OLD WOMAN IN THE SHOE" calendar for 1895.

Just the thing to give a little girl for the New Year, who has heard of the "Old Woman in the Shoe" since she was born. Here she is at last with these troublesome children all doing duty as months of the year—just twelve of them. The babies in the primary school room will understand this and learn to watch for each new baby face to appear the first day of every month.

EDUCATIONAL PUB. CO., BOSTON.

LITTLE NELL.

There is no writer whose works can be made of so much value to children for literature, and good-natured study of human nature as Charles Dickens. The only objection in recommending him for school work has been, as we all know, the length of the books. In nearly all of Dicken's works there is child-life portrayed, and around that child very often, the author makes his whole story to revolve. This is particulary true of *The Old Curiosity Shop* in which *Little Nell* figures. In this edition of this book, only such parts and such characters have been taken as have direct connection with the little heroine, making a book of ordinary supplementary reader size, of intense interest to young readers. In the lower grades this book is particularly suitable to read *to* the children, in the upper grades the children will most eagerly read it for themselves.

COLONIAL CHILDREN. By Mara L. Pratt.

To arouse generous interest in any subject, it must be presented from the readers' own standpoint—that we all agree, The author of Colonial Children has evidently illustrated this principle in this, her last book, in which she has told colonial history only as it had to do with colonial children. It is the children's Thanksgiving, the children's Sabbath, the children's sufferings and dangers, their escapes and heroisms during the Revolution and during the various Indian wars that make up the contents of this unique little book. Many of the real children of these early times figure largely in the book—Peregrine White, Oceanus Hopkins, Betty Alden and Lora Standish, and many others—making the book thereby more real, and therefore doubly interesting to the children who read it.

AMERICAN BOOK CO., NEW YORK CITY.

ECLECTIC ENGLISH CLASSICS.

Continuous with the already well-known series of school-room classics from the American Book Co. we have received Macauley's "John Milton"; "Midsummer Night's Dream"; "Silas Marner"; "L'Allegro," "Il Penseroso," "Comus," and "Lycidas"; also Sir Walter Scott's "Woodstock." These books are clearly printed, and are bound in strong, inexpensive board covers, so placing them within the reach of all school board "supply committees," who mean to place best literature in the schools. "Woodstock," for its historical character, and that, too, touching upon the times of Cromwell, ought to be of especial value in the broadest teaching of American history. This series is especially well worth examination by those making arrangements for school-room libraries for older children.

MACMILLAN & CO., NEW YORK CITY.

THE POPULATION OF AN OLD PEAR TREE: OR, STORIES OF INSECT LIFE. From the French of E. Van Bruyssell.

In this book the excuse for its being is given on the last page instead of the first, *viz:* "To make nature beloved, and thus render the approach to science the easier." The author lies down to sleep under an old pear-tree. From sleep he passes into a condition when "all the pores of his skin are furnished with wondrously sharp and piercing eyes, and all his senses become marvellously acute." He beholds the insect world in and around the old meadow pear tree, with all their wonderful ways and marvellous instincts. Waking, he tells the story. Children will be intensely interested in this book, and they will be a good deal sharper-eyed and reverent in feeling toward the lower order of creation after reading it. Devotees of science will also find much here of value, as pure information, albeit it is told in fanciful language to arouse the imagination and stimulate the observation of the careless and unobservant mortals, who go through life with their eyes shut.

LEE & SHEPARD, BOSTON.

THE JEROME BANNER. By Irene E. Jerome. Four kinds in case, $2.00. "The Rest Banner;" "The Every-day Banner;" "The Joy Banner;" "What Will the Violets be?"

Each leaflet or banner consists of four panels beautifully decorated in colors and gold, attached by ribbons of appropriate colors, combined with choice extracts from popular authors and enclosed in decorated envelopes. These banners are unique in design, and the reputation of their author for the production of beautiful things in the world of art is a sufficient guarantee for the delight they will give as a home decoration. Children will feel rich in the possession of such a banner in their own rooms, and teachers will find them well adapted to school-rooms. A Morning Talk might be made from each quotation.

LONGMANS, GREEN & CO., NEW YORK CITY.

A HISTORY OF PAINTING. By John C. Van Dyke, L. H. D.

This is one of a series of text-books (College Histories of Art) intended to provide concise teachable histories of art for class-room use in schools and colleges. It is planned to meet the needs of the students of the average educational institutions, whose time is too limited to enter into archæological discussions. One valuable feature of this book is the enumeration, at the close of each chapter, of the principle extant works of an artist, school or period, and where they may be found.

MILTON BRADLEY CO, SPRINGFIELD, MASS.

SONGS FOR LITTLE CHILDREN. Parts I., II. By Eleanor Smith.

The preparation of these books is based upon the belief that while music for little children should always appeal to enjoyment, yet it must also have in it real help for the development of the true, the beautiful, and the good. There is need for something else beside the choice of pretty tunes in the selection and arrangement of music for little children. The author believes that there should be in all songs a unity, a simplicity, a sympathetic element which, while satisfying the fickleness of child nature, will point steadily and surely to higher ideals. Another claim for the book is the good accompaniment to the songs. The children may not seem to notice these, but the ear, nevertheless, is being well trained. Part I. contains eighty six, Part II. one hundred and twenty-two songs, embracing a great variety of subjects for kindergartens and lower primary schools. These books are firmly and handsomely bound, and will be a mine of wealth to all teachers of little children. They will never tire of the delights of rhythm and action found in these facinating songs so carefully adapted to their needs and capacities.

Problems in Number.

(These problems are taken from *Arithmetic by Grades*, Book I, Ginn & Co. Publishers.)

Put in the proper signs with the following numbers:

a	*b*	*c*
3–8–11	4–9–13	5–8–18
2–4– 6	5–2–10	13–5– 5
5–3–15	6–8–14	6–2–12
9–3– 3	15–3– 5	4–3–12
7–2–14	12–8– 4	7–6–13
9–3– 6	7–2– 5	8–4–12
8–4– 2	8–6– 2	9–5– 4
9–7–16	12–3– 3	6–9–15
5–9–14	9–4–13	16–4–12

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1. Four gills make one pint. In ½ pint there are — gills.
2. In 1 quart or 2 pints there are — gills.
3. In 1½ pints there are — gills.
4. In 3½ pints there are — gills.
5. At four cents for every gill of cream, a pint will cost — cents.
6. There are — quarts in 1 gallon. In 2½ gallons there are — quarts.
7. In 3½ gallons there are — quarts.
8. There are — gallons in 12 quarts.
9. In 1 gallon there are — pints.

---

1. In 1½ gallons there are how many pints?
2. At one cent a gill a quart will cost — cents, and a quart and a pint will cost — cents.
3. A little boy spilled 2 quarts of milk. He still had a gallon left. He must have had — quarts at first.
4. Seven days make one week. There are — weeks in 14 days.
5. There are — weeks and — days in 17 days.
6. In one week there were four pleasant days. The other — days were not pleasant.
7. A man worked every week day for 2 weeks at one dollar a day. How many dollars did he earn?

---

1. How many inches in a foot and a half?
2. A man made a ruler 18 inches long. A half foot was broken off. How long was the ruler then?
3. How many eggs in a dozen and a half?
4. If one pint of milk cost two cents, what will 1 gallon of milk cost?
5. How many cents in a dime and a five-cent piece and three pennies?
6. A little girl picked 18 chestnuts, and gave ½ of them away. How many had she left?
7. How many triangles can you make with 18 splints?

---

9 twos and ? = 19.	19 — 9 =
9 threes and ? = 19.	19 — 8 =
4 fours and ? = 19.	19 — 7 =
3 fives and ? = 19.	19 — 6 =
3 sixes and ? = 19.	19 — 5 =
2 sevens and ? = 19.	19 — 4 =
2 eights and ? = 19.	19 — 3 =
2 nines and ? = 19.	19 — 2 =
1 ten and ? = 19.	19 — 1 =

Fill in the missing number:

3 + ? = 12	9 × ? = 18	6 ÷ 3 = ?
7 × 2 = ?	18 — 6 = ?	15 ÷ ? = 5
8 + 6 = ?	15 — ? = 9	12 ÷ 3 = ?
? × 4 = 16	12 ÷ 3 = ?	9 + 8 = ?
19 — 7 = ?	16 ÷ 2 = ?	? × 6 = 18
5 × ? = 15	14 ÷ ? = 7	? × 4 = 8
12 — 8 = ?	18 — 7 = ?	3 + 11 = ?
4 + 11 = ?	? × 3 = 18	19 — ? = 10
7 × ? = 14	4 + ? = 16	19 — 6 = ?
15 — 6 = ?	12 — 11 = ?	4 + 5 = 15

19 is contained in 20 — time and over.
17 is contained in 20 — time and over.
15 is contained in 20 — time and over.
12 is contained in 20 — time and over.
10 is contained in 20 — times and over.
8 is contained in 20 — times and over.
6 is contained in 20 — times and over.
4 is contained in 20 — times and over.
7 is contained in 20 — times and over.
5 is contained in 20 — times and over.
3 is contained in 20 — times and over.
2 is contained in 20 — times and over.

Copy carefully:

One	1	I	Eleven	11	XI
Two	2	II	Twelve	12	XII
Three	3	III	Thirteen	13	XIII
Four	4	IV	Fourteen	14	XIV
Five	5	V	Fifteen	15	XV
Six	6	VI	Sixteen	16	XVI
Seven	7	VII	Seventeen	17	XVII
Eight	8	VIII	Eighteen	18	XVIII
Nine	9	IX	Nineteen	19	XIX
Ten	10	X	Twenty	20	XX

Read the following, and write in figures:

1. II, III, V, VI, VII, VIII, X, XI, XIII, XV, XVI, XVII, XVIII.
2. V, IV, VI, X, IX, XI, XV, XIV, XVI, XX, XIX.
3. VIII, VI, IX, XVI, XIX, XI, XIII, IV, XVII, XIV, XII, XVIII, VIII, XX.

Write in Roman notation.

4. 1, 3, 5, 6, 8, 10, 12, 13, 15, 16, 11, 2, 17, 18, 20, 7.
5. 5, 4, 6, 8, , 3, 7, 10, 2, 15, 14, 16, 11, 18, 20, 19, 12, 17, 3.

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1. Twenty cents are the same as — five-cent pieces.
2. Twenty cents are the same as — two-cent pieces.
3. Eighteen cents equal — nickels and — pennies.
4. Sixteen cents equal — dime and —.
5. A dime and two nickels make — cents.
6. A dime, a nickel and two pennies make — cents.
7. A dozen and a half eggs are — eggs.
8. A dozen and one-fourth eggs are — eggs.
9. I can buy — two-cent postage stamps for twenty cents.

---

7. Henry made 4 soldier-caps and Lizzie 8. How many together?
2. 10 little birds were sitting on the fence. How many little feet were to be seen?
3. If you have a dozen buttons and three more on your sack, how many will you have?
4. In a big room are 4 windows, and 4 panes in every window. How many panes in all?
5. 3 pretty doves, 4 white rabbits, 6 hens and 2 kittens are out in the yard together. How many animals?
6. In a stable were twelve horses. All were driven in pairs. How many pairs were there?

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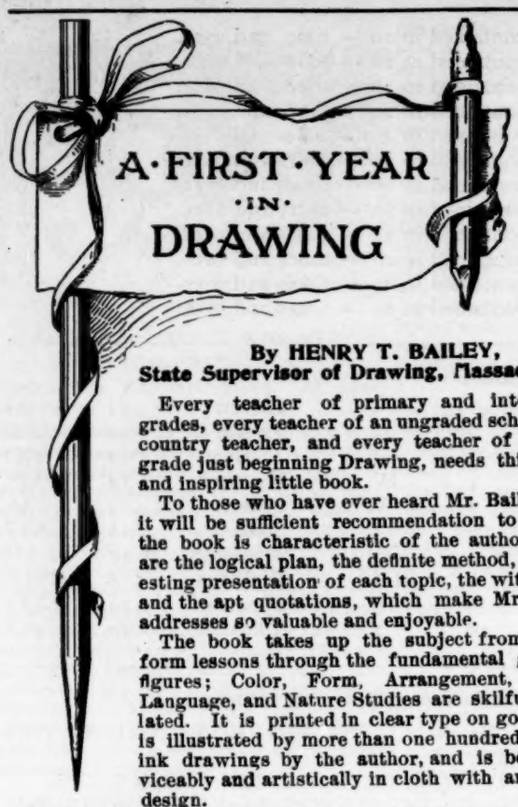
1. 12 little rubbers stood in a row. To how many children did they belong?
2. How many pairs of boots are 18 boots?
3. How many feet have 2 cats and a kitten?
4. 20 peaches were on the table, and they were divided equally among 5 people. How many peaches could each one have?
5. How many legs have 3 house-flies?
6. How many wing have 3 spiders and 3 house-flies.
7. A wasp has a pair of large wings and a pair of small wings. How many wings have 3 wasps? How many large wings have 9 wasps?



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